THE

MEDICAL AND SURGICAL REPORTER.

WHOLE SERIES, NO. 222. } PHILADELPHIA, JANUARY 19, 1861. { NEW SERIES, VOL. V. NO. 16.

ORIGINAL DEPARTMENT.

LECTURES.

Lectures on the Crystaline Lens and its Diseases.

Delivered at the Howard Hospital,
By LAURENCE TURNBULL, M. D.,
Ophthalmic Surgeon to the Hospital.

Operation of Solution.—The solubility of the opaque crystaline lens in the aqueous humor, in adults, has been fully proved by Scarpa, Hey, and other distinguished surgeons, and especially by Pott, whose careful and accurate experiments and observations established it as a fact, not only when detached from its capsule and sunk in the vitreous humor, but even whilst it remained in its natural position, provided its capsule was opened. "In order," he remarks, "to render the fact still more clear, I have sometimes, when I have found the cataract to be of the mixed kind, not attempted depression, but have contented myself with a free laceration of the capsule, and having turned the needle round and round between my finger and thumb, within the body of the crystaline, have left all the parts in their natural situation; in which cases I have hardly ever known them fail of dissolving so entirely as not to leave the smallest vestige of a cataract. In a few instances, where I have had a fair opportunity, I have pushed the firm part through the pupil into the anterior chamber, where it has always gradually and perfectly dissolved and disappeared, not producing pain or trouble while such dissolution was accomplished."

These obeervations were confirmed by John C. Saunders, the founder of the Royal London Ophthalmic Hospital, who, while pointing out the dangers and the difficulties of the operation of solution, states, from a most extended experience, that in children this operation is the only one which is suited to that age. In the adult, if the texture of the lens is uniform and permeable, the cure is completed in a space of from three to five months; but, if the texture is firmer and the nucleus large, the cure cannot be accomplished in less than seven months. On this account, Mr. Saunders, who thought highly of extraction, and performed this operation with great dexterity and success, was inclined to extract the lens when its texture was unusually hard. With respect to the softer lens or the capsular cataract, he was satisfied of the entire superiority of the operation by solution.

In the capsular cataract, we find inflammation very rarely to follow the operation; in the lenticular, the inflammation is in proportion to the irritation, or pressure which the iris sustained. It is now, also, well known that inflammation may occur, independently of pressure, from the extravasation of a fluid cataract. (See *Case* 4.)

This operation has been carried to greater perfection of later years by the use of a much smaller needle and in the manner of using it, the object being to disturb the lens as little as possible. The needle is worked at its centre with a lateral motion, not sinking it in the lens too far. We are now content to obtain, by several operations, what was at first proposed to be gained by one or two. By such careful manipulation, the great risk of dislocation of the lens is guarded against, and many an eye saved. It has been proven in this city that, provided the constitution of the patient to be vigorous, it is possible to effect the absorption of a cataract up to the age of seventy. The only drawback in such cases is the time required, which varies from five to seven months, and often renders the patient dissatisfied. Hence it is necessary sometimes to employ the combined operation of solution and extraction.

Inflammatory attacks are liable to interfere with the successful progress of the case, for no

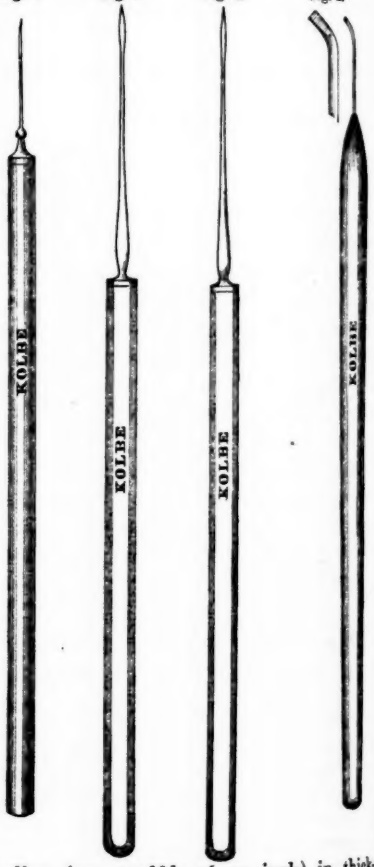
solution will take place while acute inflammation is going on. The operation of "discision," or cutting up the lens into small portions by little knives and cutting needles, has been employed to effect the complete or partial division of the lens and its capsule. Such a violent proceeding, even if it should be accomplished, would be improper and entirely opposed to the true principle of the cure by solution. Indeed, from careful inquiry, I know that, in the hands of distinguished surgeons, the lens has been dislocated by attempting to cut up the posterior surface of the capsule by one of these knife-needles; for the lens, as I have already explained to you, is held by two delicate stays, but little capable of offering resistance to a cutting instrument, while it is at the same time surrounded by structures which are sure to take on inflammation, if rudely pressed upon or contused. Even out of the body it is difficult to cut up a lens without a considerable amount of force, as you can readily determine for yourselves. The operation by solution and displacement is the one most generally resorted to by the ophthalmic surgeons in Philadelphia, and indeed in the United States.

Preparatory treatment is necessary, if the health is not good; but, if the patient is vigorous and in good health, little change should be made in the ordinary diet, with the exception of diminishing the quantity of food taken.

Position of the Patient.—During the operation, the patient should be placed upon his back on a narrow bed, the head supported by a hard pillow, and, if in a hospital, the bed should revolve upon a pedestal, opposite a window facing the north. The eye being fully dilated, an assistant or the surgeon retracts the upper lid with the bow of the speculum, while an assistant depresses the lower. The surgeon can, therefore, regulate the pressure on the eyeball as he may require. He penetrates the sclerotic parallel with its fibres a little above its transverse diameter, and two lines from the cornea. The point of the needle, having been directed toward the centre of the eye while piercing the sclerotica, is brought forward by depressing the handle toward the temple, and, after being rotated one-fourth of a revolution, so as to bring its flat surface upward, it is carried between the fringed extremity of the ciliary process and circumference of the capsule across the posterior chamber, a little beyond the middle of the pupil. When the needle is seen to have reached the centre of the pupil, its cutting edge (which is marked on the handle) is turned toward the opacity, and the capsule and the crystaline lens are very gently worked upon by the needle, confining the first operation to the capsule and superficial layers of the lens, gradually enlarging the opening by passing the needle into the lens and withdrawing it again, great care, however, being taken not to dislocate the lens. The patient should be allowed to rest five or six weeks before the operation is repeated, and this should be done only when the eye is free from all inflammatory action.

The needle which I employ is (see fig. 1)

Fig. 1. Fig. 2. Fig. 3. Fig. 4.



one line (one-twelfth of an inch) in thickness, and five-tenths of an inch in length, being shorter than any needle employed either on the Continent or in England, and and having but one cutting edge. Other needles are shown now upon the table, (fig. 2 and 3,) as Scarpa's, Saunder's, etc. I will illus-

trate the after-treatment by cases operated upon after I have described the *anterior operation*, or that through the cornea. This form of operation is adopted in England and Ireland, in order, as Dr. Jacob informed me, to avoid passing through so many tissues. He considered it less liable to produce general inflammation of the whole eyeball. He also stated to me that he had very seldom met with any opacity caused by the wound of the needle in a healthy person. But he, like every operator for cataract—it matters not what form of operation is employed—will meet with cases of inflammation and destruction of the whole eye. This, as a general rule, would arise from the constitution and general condition of the patient. Two cases were related to me by one of the most careful and expert surgeons of this city, in which both eyes took on subacute inflammation and terminated in destruction of the eye, where no cause could be assigned.

Dr. Littell, whose large experience in hospital practice, during a term of service of twenty-five years, entitles his opinions to the greatest consideration, almost always performs sclerotic puncturation; and, although failure from inflammation has occurred, yet the degree of his success he considers fully to justify his practice. I have witnessed him operate upon many cases, and, as a general rule, when the patient had not been previously affected with diseased retina, his success was equal to that of any operator. Still he considers the anterior a valuable mode of operating. His success he looks upon as owing to the smallness of the needle and the cautious avoidance of all unnecessary injury to the eye; much is also due to the care and attention which he gives his patient in the preparatory and subsequent management for the prevention of inflammation. His needle is about six-tenths of an inch in length, flattened, and a little widened toward its extremity, with an angular point, and of as sharp an edge as it can be made to receive.

The proper position in the *anterior operation* is the same as in the posterior, already spoken of. The celebrated Baron Wenzel prefers that his patient should be seated in a chair.

The needle (fig. 1) is passed through the cornea, near its outer margin, and carried onward, avoiding the iris, until the point reaches the centre of the pupil, which, as a matter of course, has been dilated. The capsule is punctured with care, and then a gradual abrasion of its surface made, working chiefly upon the surface and gradually sinking deeper. The following passage, from Dr. Jacob's writings, shows, in a strong light, the importance of not doing too much:—"The surgeon who would succeed in restoring vision by exposing the lens to the contact of the aqueous humor, should never forget that the most formidable impediment to his success is the inflammation which follows the operation. A notion very generally prevails, which I cannot but call a mistaken one, that it is necessary to place the fragments of the lens in the anterior chamber to accomplish their solution and absorption. The inexperienced operator may rest assured that, if he adopts such practice indiscriminately, he will have reason to repent of it. I have frequently had an opportunity of witnessing the solution of cataract *in situ* after the capsule had been opened, and I could, with a magnifying glass, observe, from day to day, the change in form which occurred from the removal of particles of cataract, until at last a portion had disappeared, and left a passage for the light. In such a case, I observed several times that, when a small fragment fell out of the capsule into the anterior chamber, pain and slight inflammation supervened, and continued until the particle was absorbed."

The cut (fig. 4) of Dr. Jacob's cataract needle is copied from one presented to me by that distinguished ophthalmic surgeon, and made by himself. It is a round needle, which he selected from No. 7 paper of needles; it is then curved and bent at the point, and is five-eighths of an inch in length, with the point ground off at each side. It requires considerable force to penetrate the cornea, but when once in the eye it gives great control over it. Dr. Jacob operated with it upon a case of double cataract in my presence, without any assistant to steady the eye, the needle acting like an ophthalmostat, so that he was able to rest before concluding the operation.

The after-treatment is the same as that in the posterior, and will be illustrated by cases.

Case 1. Showing some of the difficulties following the operation and how to treat them. Nov. 10, 1858. Miss S., aged seventy-two. Capsulo-lenticular cataract of left eye; lenticular in right; no vision with left; slight vision of objects through a mist with right; no cause assigned. She is lame and feeble; very desirous of obtaining her vision. After administering tonics for some two weeks and keeping

the eye well dilated, on account of adhesion between the iris and capsule of the lens, it was considered by Dr. Littell and myself as a favorable case for the small posterior needle operation, which was performed on Nov. 10, in the morning, after having taken a light breakfast and a teaspoonful solution of morphiæ sulphas. The operation was performed, as I have already described it, in the presence of my class. She bore the operation remarkably well. In the afternoon, she had some gruel given her, when she commenced to vomit, at intervals, until 6 P. M.; had pain over the forehead, and stated that she had a slight chill. She was ordered to take one grain of opium every three hours; mustard cataplasms were applied over the stomach, and mustard foot-baths.

On visiting her again, at 10 P. M., the pulse was 90—full; pain continued, but she had vomited only once since the foot-bath and the opium pills had been given. There was pain in the temple. I directed fifteen leeches around the eye and small pieces of ice in the mouth; pil. opii continued, with extract of belladonna around the brow.

Nov. 11. Pain gone; had several hours of tranquil sleep; slight nausea, which was relieved by equal parts of aq. calcis and milk, with cut lemon. 12 M.—pain again returned; applied thirteen leeches. 6 P. M.—better; has been dozing; ordered one-tenth grain of morphia; diet, arrow root, gum arabic water, milk; aq. calcis. to allay the nausea.

Nov. 12. Had a good night; free from pain. 12 M.—still improving. 6 P. M.—dull; pain in the head; directed foot-bath and one-tenth grain of morphiæ sulphas.

Nov. 13. Has had a good day; no pain; washed the eye, removing the extract of belladonna, substituting the solution of atropia.

Nov. 14 and 15. Doing well; did not expose the eyes to the light until the 18th, when she was able to distinguish my fingers when held before her. Is very much delighted; still slight inflammation, but absorption is going on slowly.

Dec. 6. Patient called to see me; has been improving ever since. When I saw her again (Oct., 1860) she was able to guide herself with the eye operated upon. The other eye has been operated upon by extraction by another; but, after intense suffering, vision has been lost in it. I found that she had a second needle operation performed upon the eye I operated upon, which accelerated the solution. There was, after the first operation, slight adhesion of the iris and a portion of the capsule. Being of a rheumatic diathesis and feeble, the true operation for her was solution, and should have been performed in both eyes.

Case 2. Miss M., aged 18 years; cataract only in left eye; no cause assigned; general health good; no preparatory treatment. The patient is desirous of getting rid of a deformity, and was willing to undergo the operation.

The color of the cataract was light gray, evidently soft. The operation was performed as usual, the capsule was opened, and the opaque lens but little disturbed, so as not to throw the fragments into the anterior chamber. No inflammation followed. In two weeks the patient returned to her home, calling twice a week to have a solution of atropia dropped into the eye, and, by the end of three months, a good round pupil was left—all the opaque capsule had been removed from the axis of vision, but not all absorbed. The two eyes did not correspond, but she was able to see, and the deformity was gone.

The slowness of the process, in some cases, tempts the operator to do too much at once, as the following case will show:—

Case 3. D. L., aged 45, a farmer by occupation, of good, robust health, is desirous of having a cataract removed as speedily as possible; it involves both the capsule and lens, and has a darkish tinge, indicating a hard centre. In this operation, I made more free with the capsule, and cut and lacerated it beyond its centre. The capsule was torn more than was intended, and caused the lens to pass in pieces into the anterior chamber, causing pressure upon the iris, which caused inflammation, in spite of free leeching, anodynes, solution of atropia, small doses of mercury, etc. Three months' constant treatment was required to cure the case without destruction of the whole eye. In this same case there is a forming cataract in the other eye, which will be operated upon when ripe, but more care will be employed. A similar case is related by Mr. Saunders, in which, in the evening after the operation, the lens advanced, even after partial depression, pressing the iris, and bulging toward the inner anthus; the pupil was dilated, and the patient now complained of a dull, heavy pain affecting the forehead. The cornea began to slough around its junction with the sclerotica in forty-two hours, and the eye

was lost, although (remarks Mr. Saunders) he had lost sixty-four ounces of blood!

Case 4. James Anderson, aged 23, a resident of Lewistown, Pa., farm laborer, was brought to the Howard Hospital by a friend.

He stated that up to 1845 he was able to see perfectly well. His mother is living; father died of hemorrhage from the lungs. Both parents suffered from weak eyes, but none of his relations were affected with cataract. The right eye first commenced to become cataractous, and soon afterward the left eye became affected.

In 1859, he was operated upon by Dr. D., of Harrisburg—the patient, however, remaining but three days under the doctor's care.

When he entered the hospital, in December, 1860, the pupil of the eye formerly operated upon was found to be well formed; but, on an ophthalmoscopic examination, a thin, filmy substance was found adherent to the upper and outer portion of the iris, only discernable when the pupil was fully dilated, and evidently the result of plastic exudation or a piece of adherent capsule. In the right eye, the cataract was smooth, of a milk and water color. All crystaline structure had entirely disappeared; there were a few striæ on the surface of the capsule. The iris acted well; light was perceived.

Jan. 1, 1861. After having been subjected to slight preparatory treatment, the patient was operated upon in presence of part of the class. Owing to the softness of the cataract, I preferred the anterior operation, lacerating the capsule but gently; on doing which, part of the cataractous fluid passed out, and, mixing with the aqueous humor, rendered the latter turpid. In such cases the proper plan is to stop at once further proceedings, as the turpidity thus produced, materially interferes with the proper performance of the operation.

The patient suffered no pain during the operation, nor until the evening, when he had considerable pain, but unaccompanied by either nausea or vomiting, indicating the approach of inflammatory symptoms, and proving that even the escape of a fluid cataract may result in inflammation. These symptoms were relieved by two dozen American leeches around the eye, a foot-bath, and opium in one-grain doses, repeated as necessary.

Jan. 3. Pain gone; slept well; still some turbidity of the humors.

Jan. 4. Anterior chamber clear; eye well dilated; nothing remaining but the capsule.

Jan. 9. Not so well; has taken cold; slight haze around the edge of the cornea; directed hydrarg. chlor. mit. gr. xx; pulv. ipecac. et opii. ʒi; pulv. fol. belladonnæ, gr. iii. M. Divide in chart. No. xx; one to be taken every two hours.

After having taken one-half of these powders, he was entirely relieved; all signs of inflammation had disappeared, and he was able to see with the eye. The portion of capsule remaining will be removed at a subsequent operation, if necessary.

COMMUNICATIONS.

Ergot; its Natural History and Uses as a Therapeutic Agent.*

BY E. N. CHAPMAN, M. D.,
Of Brooklyn, N. Y.

Professor of Materia Medica and Therapeutics in the Long Island College Hospital.

Ergot (*Secale Cornutum*) is defined to be the diseased seed of the secale cereale or common rye. Though more frequently found on this plant, yet others of the same family, the grass tribe—gramineæ—are often thus affected. In the wheat, (triticum vulgare,) for example, the spur is common, and it has been shown by the observations and experiments of Mialhe and Pareira to have the same chemical constituents and to produce a like action on the human organism. This parasitic growth possesses undoubtedly a fixed, established character on whatever plants it may be developed, not only when appearing in the grasses, where it has been observed in thirty-one species, but, also, when attacking the sedge family—the cyperaceæ—to which it is less natural. We know this must be so, from whatever source the ergot draws its nourishment, since, from recent observations, it has been established that this and all other fungi have laws of development as unvarying as those that preside over the growth of a tree or an animal. The evolution of its germs, like every other form of life, is dependent on a suitable nidus, which can afford the materials

* This article was, originally, a lecture delivered before the class of 1860, at the Long Island College Hospital. Subsequently it was enlarged and read before the College Society. This fact must be my excuse for the style of composition adopted, which has, at times, perhaps, too great an air of positiveness.

for its increase. This is presented by the ova of the grain with its store of albuminoid products. These, elaborated by the plant for the perfection of the grain, are attacked by this parasite, and so transformed by a special, vital power, that every vestige of original conformation disappears, and a new vegetative product takes its place. This product is the subject of our present observations.

It is called ergot, a name in the French for the spur of the cock; secale cornutum, horned rye, in the Latin; and Mütterkorn, or womb-grain, in the German languages; the two former names originating from its form; the last from the popular belief as to its virtues. Diverse opinions have been entertained as to its nature and mode of production.

Some regard it as a diseased condition of the seeds of the grain produced by the attacks of insects, or seeds perverted in their growth by climatic influences, as, for instance, excessive moisture conjoined with high heat.

A second view is that the ergot is a fungus, growing in the glumes of grasses in place of the ova of the grain, which it entirely supplants. De Candolle, as early as 1815, and Guibourt, in 1849, both distinguished observers, adopt this explanation.

A third view combines the two preceding, and supposes that the spurred rye is the combined product of the morbid grain and the fungus, that its power as a medicine arises from this union, but which of the two was the most important was not decided. Quekett, Léveillé, Phillipar, and others, advocate this hypothesis, in which they are followed by Pereira, Wood, and most other writers. Mr. Quekett, by extended observations, showed that a fungus, the ergotaetia abortans, or oidium abortifaciens, first makes its appearance on the young grain in the form of a mildew, which, under the microscope, is found to consist of an infinite multitude of spores, which rapidly shoot into cobweb-like filaments, interlacing in all directions, and cementing anthers and stigmas together. This fungus was thought to be mingled with the remains of the decayed seed and the product to form the substance called ergot. Now, from the most recent investigations in vegetable physiology, we must arrive at the conclusion that the fungus, and the fungus alone, is the only indispensable and special constituent of ergot. Remove this, and we have no proof that any other state of disease in the grass tribe will cause a morbid product that possesses the toxic and medicinal action of this drug. We know that the bloom of spores on the ergot, appearing like a fine dust, when sprinkled on the flowering grasses or at their roots, will produce the parasite, and that seeds immersed in water containing them become ergotted. We know that the ova perish, literally starved, and that all of their store of albumenoid products, which naturally would be elaborated into starch granules, is appropriated in the nourishment of a parasite, which, by a vital power of its own, transforms starch into oil, and from a nutritious substance prepares a poison that mysteriously causes contraction in the uterus, and, long used, mortification of the extremities. We know that no trace of starch can be detected by iodine in this new substance, as there would be, were there any of the grain remaining unchanged.

This point is rendered still more certain by the discoveries recently made and established in regard to the laws of reproduction and growth of the humblest cellular plant, or even a plant of a single cell of microscopic minuteness, that are found to be as fixed as those regulating the life of higher organizations. In fact, all life seems to begin on the same level, only differing in the extent of its development, and the germ cells that eventuate in a human being pass first through all the stages of those of a plant. By the latest observations of Kölliker, in his recent work, it appears that the male germ originates in the testis as a globular cell with a cell-wall, containing from one to twenty nuclei, and that these nuclei are the heads of the spermatozoa, which are folded up in the cell. This cell-wall bursts by the time it reaches the rete testes and the spermatozoa, which are nothing less than elongated cells, are set free. I should state that this high authority has proven that the nucleus in all cells is likewise a cell with cell-walls containing a nucleus, (nucleolus,) and that this nucleolus is supposed by him to be constituted in the same way. The female germ-cell, in as far as can be discovered, is identical with all other cells wherever found, and has a striking analogy to that from the testis. The cell-membrane is named vitellin, the nucleus germinal vesicle and the nucleolus, germinal spot. In fact, there is no essential difference in any cells, whether of growth, excretion, secretion, or reproduction. All have a cell wall, nuclei and nucleoli, and contain in their structure, especially in the cell-wall and nuclei, a protein substance that is universally present.

In reproduction the contents of the male and female cells mingle, and, at the present time, this mode of propagation is being established as the universal law of nature for every living thing. As late as 1855 and 1856, it has been satisfactorily demonstrated by Cohn* and Pringsheim† that the spores of fungi are fertilized in a mode precisely similar to that before known in regard to the ova of animals and flowering plants. The spermatozoids, first made known by these two writers, are proven to be strictly counterparts to the spermatozoa of animals and the pollen of plants. Universally the male cell has one or more filament-like projections in ceaseless motion, and this has been shown to enter the female cell wall either by its absorption or by the law of endosmosis. Then begin those changes that in one case form spores, in another a tree, in another an animal, and in another a man. Each starts from the same point—cells containing, or their nuclei and walls being formed of, nitrogenized principles—and by a life-power each individual is evolved according to his kind—first, however, passing through the stages of the inferior orders. To illustrate, the fungi belong to the lowest order of plants, the cryptogamous. Of these, on the verge of vitality, are those of a single cell, either globular or elongated; an example of which is afforded by the green scum on standing pools. A modification of this form of development is seen where the cells elongate to end in jointed filament-like prolongations, as in ordinary moulds or mildew. There is the bread mould and the cheese mould living on dead organic matter, and moulds nourished by the juices of living plants, as that causing the rot in potatoes, or that which has, for several years, destroyed the grape crop of Europe. The ergotætia abortans or oidium abortifaciens is a fungus of the same simple structure.

Now, it has been proven that all vegetation—the highest and the lowest—is dependent on a vital power seated in the cells. This life-force arises from the protoplasm or azotized principle they contain, and by its presence each cell, individually and independently, effects assimilation and nutrition, and the gross result is but the conjoined product of many cells. By the vitalism of these cells, under the influence of light, inorganic is converted into organic. Carbon, hydrogen, oxygen, and nitrogen are thrown into endless combinations, which chemistry cannot even imitate. The air and soil, gases and minerals are transformed into starch, sugar, acids, oils, vegetable albumen, fibrin, casein, cellulose, lignin, and the thousand other products of the vegetable kingdom. Thus we see that the plant, without a nervous system, affects a higher vital action than the animal, since the latter must have for its nutrition ready prepared and organizable materials, and cannot, like a plant, feed on the elements. The humble spore has a power of elaboration even greater than the human stomach. It changes starch into oil, and the nutritious grain-germ into a powerful poison, and, like every other living being, has a parentage that extends back innumerable generations.

I hope, therefore, that I have sufficiently vindicated the claims of this humble plant to a place in the ranks of the great and ceaseless procession of life that ever is passing over the stage of time.

Constituents.—The ergot is covered with a fine dust, which is the sporidia of the fungus. When examined under the microscope, it is found internally to be formed of cells containing oil. After this oil is removed by ether, a substance may be obtained by boiling alcohol, which, by Wiggers, received the name of ergotin, under the supposition that it was the active principle. Bonjean removes the oil in the way just mentioned, and from the residue makes a watery extract, which he also calls ergotin. F. L. Winkler obtained a volatile alkaloid, which he called secalin. Probably the active principle has not been isolated; yet, from our present light, I am disposed to conclude the watery preparations may contain it. At least, it is tolerably certain that alcohol is a poorer solvent than water, and that an infusion of fresh ergot rarely disappoints us. There are two principles in this drug; one the narcotic or toxical, which resides in the oil,* as we shall see, and the other the uterine motor-stimulant, which remains in the residue after it has been exhausted by ether.

As early as 1831–2, Dr. Charles Hooker, of New Haven, experimenting with the oil, gave

*In Comptes Rendus, vol. 43, 1856, and Ann. Sci. Nat. Ser. 4 vol. 5, p. 323.

†Royal Academy of Science, Berlin, Ma., 1855, and May 1856 and Ann. Sci. Nat, Ser. 4, vol. 3, p. 363, and vol. 5, p. 250.

* It is stated that the oil extracted by ether, on standing, separates into an upper and lower strata, and that these differ in their properties, the heavy kind causing uterine contraction. The want of proof of any such distinction has led us to pass over this point in silence.

it to a medical student—ʒss. at 2 o'clock; ʒi. at 3 o'clock, and ʒi. at 4 o'clock. Intense narcotic symptoms were produced that did not entirely disappear for several days. The pulse fell from 85 to 65, and then to 36, and the respiration from 19 to 8 per minute. On using the same oil, in labor, no influence was observable on the uterine contractions, but on the child that of a powerful narcotic.

He used it in six cases of labor, employing from 20 to 75 drops, and though the pains were not increased, yet "the children for a considerable time after birth had a livid appearance, and respired with much difficulty and irregularity, with the ordinary symptoms of ergotism." In the experiments of Boujean and Wright with the oil on animals, a similar train of narcotic symptoms followed, ending frequently in tonic or clonic convulsions and death. In the many experiments that have been made by others on animals, it has been shown that where abortion does not occur, yet, as a general rule, the conception perishes, and after a time is expelled.

Hooker then used the residue that remained after the extraction of the oil, and found its alcoholic power unimpaired. Bonjean's experiments accord with those of Hooker.

We conclude, therefore, that the uterine motor-stimulant power exists in the watery preparations, and the poisonous principle in the oil, but what are the ultimate elements has not been satisfactorily determined.

History.—It has been long recognized that a smut or rust in grain has been the cause of epidemics, which in different seasons have committed great ravages in Europe. Formerly, more than at present, from the surroundings of the people, filthy modes of living, bad food, the want of vegetables, and defective ventilation in their mud hovels, typhus plagues and spotted fevers were common; but there cannot be a doubt that these were rendered more prevalent and malignant by a diet of ergoted grain. This cause is rendered more palpable by the appearance of gangrene and mortification in many epidemics. The only wonder is, that these poor people, confined almost exclusively to such bread, could, any of them, escape with their lives. It must be, as suggested by Bonjean, that the heat employed in cooking, dissipates more or less the active principles of the ergot.

The oxytoxic powers of this drug have, from time immemorial, been known amongst the common people of Europe. This is shown by its vulgar name Mütterkorn or womb-grain amongst the Germans. The midwives on the Continent employed it so generally in difficult labor that its use was interdicted in France in 1774. Three years after, Dr. Desgranges, of Lyons, introduced the drug into general use amongst the profession, by published reports of its usefulness and efficacy, yet it was forgotten, until its knowledge was revived thirty years subsequently by Dr. Stearns, of Waterford, of this State. Drs. Akerly, Prescott, Dewees, Chapman, Atlee, and others, confirmed the report of its power to excite the action of the uterus, and by their countenance to its use in tedious and difficult labors, rendered its employment in the lying-in room fearfully common. With pride they looked upon it as an American discovery, and as they were enlisted in establishing its claims, and committed to the foregone conclusion that it was a safe and efficacious remedy for expelling the child, they were, of course, blind to the causes of the increased infantile mortality.

In France, Chaussier and Madame La Chapelle denied that ergot exercised any power over the uterus. In this they were followed by most of the obstetricians of Europe. Even as late as 1825 it had been scarcely tried, and the disbelief in its powers was nearly universal. Even at the present day there is the same doubt, and the properties of our drug are thought to be of a very ambiguous, uncertain character; that, perhaps, it may increase the pains when present, or on the eve of arising, but that it cannot originate uterine contractions nor cause abortions. This is folly. Ergot either has or has not a power over the uterus—it will or will not cause contraction of that viscus when extended.

This we shall discuss by investigating its physiological action.

Animals generally manifest a strong, instinctive repugnance to the ergot, and where considerable quantities are administered, the toxic symptoms are pretty uniform. These are similar to the peculiar condition called ergotism in the human subject. Loss of nutrition, impaired nervous power, imperfect circulation, especially in the extreme capillaries, muscular weakness, sometimes gangrene, convulsions, and death. The pregnant female usually aborted, and where this did not occur immediately, the conception ordinarily perished, and was subsequently expelled.

That the action of this drug is the same

on animals as on man, is shown by the experiments of Mr. Tonatt, who says, "I have for the last six or seven years been in the habit of administering the ergot of rye to quadrupeds in cases of difficult or protracted parturition. . . . The uterus has in every case responded: it has been roused to a greater or less degree of renewed action."

On man, ergot, in full doses, has a special narcotic action shown by a reduction of the pulse from 10–20 pulsations per minute—giddiness, delirium, dilated pupils, trembling, weakness, unsteady gait, a peculiar intoxication, which the peasants, living upon ergoted grain, seem to enjoy, as they would the excitement from alcohol or opium. By living on contaminated food for a length of time, the mind becomes dull and imbecile. There is formication, numbness, cramps, cold, and livid extremities. Sometimes convulsions, and speedily mortification, which commences in the extremities and passes upward. It appears as though the narcotic paralyzed the nervous system, rendering the capillary circulation feeble at first, and then finally checking it altogether. Hence, the extreme vessels collapse and dry gangrene is the result. On this property is based the use of this drug in any of the different forms of hemorrhage. Continued doses are required for some time, and a near approach at least to this peculiar ergotic condition. But as we have a safe and far more reliable remedy in the persulphate of iron, or gallic acid, we scarcely should be justified in using so hazardous an article as this would be in persistent doses.

The second property of ergot, and the one for which it is mostly used in medicine, is the power it has of causing contraction of the muscular fibres of the uterus. This effect follows, generally, within the hour, from small doses of from 20 to 40 grs., quantities that would occasion no symptoms of ergotism or any of depression of the heart and nervous system.

Mode of Operating.—The ergot, like all systemic remedies, is absorbed, and thus, through the circulation, impresses the motor tract of the spinal marrow in that limited portion, wherever the uterine nerves take their origin. The muscular organs, contiguous and supplied by the same nerves, as the bladder, for instance, are, as it has been shown, subject to the same stimulus. Herein is comprised all of the valuable virtues of this drug. It is simply an excitant of the motor nerves of a limited portion of the body.

Strychnia is analogous in its mode of operating, affecting, however, the entire motor tract of the spinal marrow, but having no influence over the nerves of sensation or the brain. Both of these drugs act centrically, and thus arouse those reflex movements, of which the spine is the special seat.

The peculiar phenomena excited by ergot have been mostly studied in connection with its medicinal employment. In from 15 to 30 minutes after exhibiting a full dose to a woman in labor, the pains become greatly intensified and without intermissions, although there are remissions for a few moments, and then exacerbations. The womb is constantly hard like a stone, and at no time relaxes. The child is crushed firmly down, does not recede as in ordinary labor, and all the soft parts of the mother are subjected to an unremitting pressure, which in the exacerbations tells with fearful energy on both mother and child. There is no peace until either the child is born or the excitability of the uterus is exhausted. After labor, the uterus condenses into a hard globe, and does not have alternate periods of contraction and relaxation. That good ergot will produce this result with great uniformity I am thoroughly convinced, from a considerable experience. It is alleged by those who grant the power of the drug to increase the natural pains or excite them, when on the eve of arising at the full period, that at no time antecedent has it any such power, and that it cannot originate labor per se. This is an important question practically and in a medico-legal point of view. During gestation, the uterine muscular fibres are increased many hundred times, and the nervous and vascular supplies are equally augmented. The fully-developed organ would feel any special stimulus more sensibly than at any previous stage, when the instruments of its appreciation are less. Obviously the nearer the uterus is to its normal size, the less likely shall we be able to arouse it to contraction, and, under the same circumstances, we shall be less likely to succeed in morbid distensions than in pregnancy, since, in the latter case, it is in a high state of vital activity, whereas when a polypus occupies its cavity the muscular fibres are merely stretched asunder by an internal force. From my experience, I am certain that ergot has a direct power to excite the contractions of the uterus at all times when distended. In some most desperate cases of flooding after delivery, where I had extreme

difficulty in staying the flow until the medicine could be procured, I have seen it in fifteen minutes produce a firm condensation of the womb, and I have left my patient with a perfect confidence that the danger from this source could not arise again.

A lady, the mother of several children, and of a delicate, spare habit of body, was taken with the most alarming hemorrhage within an hour after delivery. The labor was rapid, with only two expulsive pains. Everything was drenched with blood. It was found that the womb would not contract on the hand in its cavity, and could only be imperfectly retained in a semi-firm state by ice in the vagina, friction with ice externally, and strong compression. She passed from one fainting fit to another, in spite of brandy, which seemed to produce little or no stimulation, and, beside, it was impossible completely to stay the flow that was adding to the collapse. Two drachms of powdered ergot had no effect. At the end of two hours matters had but little mended for the better; the chief change was occasioned by a slight rallying from the stimulus of the brandy. A fresh specimen of ergot was now procured and administered, and in twenty minutes, after giving an infusion of twenty grains, the womb began to condense its fibres, and in less than an hour, by repeating the doses, the uterine globe was firm and hard, with no alternate contractions and relaxations. In another case, resembling this in every particular, the ergot had the same effect.

In both, the exhaustion was so great as to render the response to stimuli imperfect and scarcely perceptible, although given with a liberal hand; yet the ergot, in spite of the want of a disposition in the uterus to contract, caused it to do so within twenty minutes, and not only this, but rendered its condensation firm and unremitting. Surely there cannot be a doubt of a remedy that acts on the nervous centres when brandy produces little more effect than so much water.

In several instances where, from the death of the conception or the alarming loss of blood on the part of the mother, it has been necessary to hasten the miscarriage, I have rarely been disappointed in this drug. In one case I succeeded with it, where from a fœtus in a putrid condition, the gravest typhoid symptoms had arisen, as shown by a pulse of 140 beats per minute, a dusky countenance, and a low muttering delirium. The lady was advanced to about the fourth month, and although the conception had probably been dead for three weeks, as at that time she fell insensible in puerperal convulsions, yet there was no disposition to contraction in the uterus. The first prescription failed, but on the next day, the ergot was procured from a sample which I knew was good from previous trial. Within an hour its peculiar action was manifested, and this was continued by repeated doses until the fœtus was expelled.

I saw a case with my friend Dr. Davol, which was even more remarkable. A lady, four months pregnant, had become reduced to such a condition of vital prostration and inanition by persistent vomiting and purging, that her case had been pronounced by us and another practitioner a hopeless one. There did not seem to be any chance for the induction of premature labor. After continuing in this way for three weeks, first the vomiting and then the purging abated. She seemed to rally considerably; took beef tea, stimulants, &c. Improving slightly, she was taken with uterine pains, which were, however, only momentary twinges in the back for 15 or 20 seconds at a time, recurring about every hour. The typhoid state was extreme as shown by her pulse, the want of response to the stimulus of brandy in ounce doses, the ecthyma covering her body, and a bed sore as large as a quarter of a dollar over the sacrum. The os uteri was dilated, yet there was not vital energy sufficient to arouse the uterus into action. For eight hours she took a preparation of ergot with no effect. We then procured another known to be good, as we had before used from the same parcel. In fifteen minutes, after taking twenty grains, she had a marked pain, which continuing three or four minutes, forced the uterus low down into the excavation. From the want of excitability in the nervous system the pain went off, but recurred again in the same manner from a fresh dose. The lady was delivered one hour and a half after the induction of the first ergotic pain. In neither of these two cases, both of which took four drachms of ergot by infusion, were any of the narcotic effects of this drug observable, although the feeble condition of the patients was such as, in the opinion of many, to interdict its use.

I saw recently, with my friend, Dr. Gilfillan, a case of polypus uteri, where, in forty-eight hours, two drachms of the ergot was given in substance. At the end of this time, it was

found that no pains had been excited, but the pulse was reduced from seventy-four to sixty-five beats per minute, and there was experienced a dizziness, heaviness in the head, and an uncertainty in muscular movements, showing conclusively that the nervous centres were affected. As the quality of the sample of medicine we were now using was evidently deteriorated, it was changed for a fluid extract, made from the ergot employed in the last two cases before mentioned. Of this there was administered fifteen minims* every five hours, until one ounce and a half was taken. From fifteen to twenty minutes after each dose, the pain would commence, lasting for about two hours, and having that constant tension so characteristic of ergot, when gradually it would subside, as the nervous excitability became exhausted. No effect on the pulse or other symptoms of ergotism were observable, notwithstanding the use of so large a quantity of the drug—sufficient, had the poisonous principle still remained in it, to have produced the most serious consequences. Before attempting the removal of the polypus, whose pedicle was attached to the fundus, it was thought that a dose of the medicine would bring the growth more within reach, and thus facilitate its removal. On examination, we found the uterus relaxed, the neck soft and dilated, with no periods of contraction, and, in fact, the patient had been free from pain for several hours. The doctor, who very neatly and skillfully removed the polypus by torsion, stated that the body and neck of the uterus condensed themselves so firmly, that little space was allowed for manipulation, and his fingers became numb from the pressure. In his opinion, there could not be a doubt—in this case at least—of the direct and positive action of the ergot.

Therapeutical Uses.—The employment of ergot in labor has been frightfully common in this country, arising, probably, from the fact that high American authorities recommended it as an expulsive agent, both to arouse the uterus when exhausted and to increase its energy when its efforts, however vigorous, were insufficient. As in the normal process, the child could not be born without pains; it was a natural conclusion that these, when feeble, flagging or incompetent to overcome the resistance, must be stimulated until our great object, the birth of the child, was attained. It is a *reasonable* doctrine that ministers to a convenient and seductive practice, gratifies our propensity to do something, contributes to our ease, and will undoubtedly save us several hours of patient waiting. Of course, its advocates, fortified by a wonderful light from reason in the closet, never saw any harm resulting from it. They do not believe it would injure either mother or child, as though their medical creed made any difference with facts.

It was found, by M. Dépaul, that, during active natural pains, the fœtal circulation became greatly hurried, and at times could not be heard; but, during the intermissions, it gradually resumed its normal rythm. This is readily explained by the fact, that the child's blood is aerated through the influences of the mother's in the uterine sinuses, and the circulation in these sinuses and the arteries that supply them cannot go on freely when the muscular fibres are condensed. How much greater will be the danger to the child when, by ergot, the natural pains are greatly intensified and the contraction is rendered permanent and continuous? The truth of this is rendered evident by statistics.

In 1850, the Academy of Medicine at Paris, directed to investigate the influence of ergot on the life of the child, came to the conclusion that this was endangered both by compression and narcotism; in 1853, the Academy adopted the conclusions of M. Dépaul: "that, except in miscarriage, in certain labors attended with hemorrhage, and occasionally at the conclusion of natural labor, parturient women would be the gainers by the complete disuse of ergot."

In one hundred and seventy-five cases, reported by Busch, where ergot was given, seventeen children were born dead and eight asphyxiated; of eighty, by Chatto, ten were dead; of forty-eight, by Hardy, thirty-four were dead; of sixty-four, by R. U. West, nine were dead.

Dr. Stearns, who reintroduced this remedy into notice, and used it more cautiously than many do at the present day, lost his practice from a strange mortality amongst the children and a child-bed fever that followed him, like an evil genius, from door to door. There can scarcely be a doubt that one hour's ergot pain would be fatal to one-half of the infants born. They are literally smothered, since they are effectually shut out from the only source whence their blood could be supplied with oxygen. I should not deem it safe to administer the ergot in any case, unless I was quite certain

* The extract used contained one grain to the minim.

that the child would be born in four or five vigorous pains. If, after giving it, the birth should be delayed more than half an hour, it would be more prudent to conclude the labor with the forceps.

We should never use ergot as an expulsive agent—never where the pains have been or are vigorous—never to overcome impediments, as a narrow pelvis or rigid perineum—and never in a primipara under any circumstances. In cases where the pelvis is large, presentation natural, all the parts relaxed, and the previous labors short, we should give it, if from a sudden inertion of the womb the child is left pressing on the floor of the pelvis, partially out of the womb. It might not be safe for the child or mother to allow it to remain any time in this position, since the pressure might endanger the mother's soft parts, and as, more especially, the child might perish from a partial detachment of the placenta or obstruction to the circulation in the cord. Either the ergot or the forceps will be required. Should the case appear to require the instruments, the ergot may still be requisite after delivery to prevent post partum hemorrhage.

Flooding after Delivery.—In patients who almost invariably flood after the birth of each child—in all hemorrhage after delivery where the uterus is flabby and relaxed—the ergot is of inestimable value. It will, with great certainty, insure a firm contraction. In any case where we learn that the patient floods after confinement, we should give the ergot before we leave the house.

Retained Placenta.—Some give this drug to remove the placenta when retained. A moment's reflection will convince us that this is a most unjustifiable practice. We have seen that the ergotic influence causes a tonic, unrelenting spasmodic contraction of the uterus far exceeding the natural pains. We know that where the drug is not given it is a difficult matter, two or three hours after delivery, to introduce the hand and remove the placenta. It would be scarcely possible to do so, if this natural condensation was rendered sudden and permanent by this potent agent. Ergot could not displace an adherent placenta—might not overcome an hour-glass contraction; and, in the event of its failure, the difficulties of the case would be greatly augmented.

After Pains.—The after pains are often rendered more troublesome and persistent by a too lax uterus, allowing the blood to ooze freely into its cavity, when, from a diminished irritability, contraction is only aroused by the stimulus of a greater distension. In such cases, where we have a considerable show with each pain, I have found the ergot a most efficient remedy. Should the show be slight, and the pains arise more from nervous irritability, opium and camphor are indicated. The ergot would aggravate such a condition. With both, too great a show and nervous irritability, ergot and opium conjoined would be found to answer the purpose. The union of these two remedies would not be improper, since the opium acts on the brain, and the ergot on a localized portion of the spinal marrow.

In Placenta Prævia.—Ramsbotham recommends this drug, for the purpose of holding in check any excessive discharge, until the os uteri shall be sufficiently dilated to admit the hand for the purpose of turning. If we have rightly comprehended the action of this ergotic power, the hemorrhage could scarcely fail to be augmented, and the version of the child be far more difficult; perhaps impossible, without undue violence. From the knowledge we have of the styptic virtues of the persulphate of iron, even in the wounding of considerable arteries, it would, undoubtedly, if pressed against the exposed placental vessels, effectually stay the flow of blood for the time. The iron could be easily and thoroughly applied through a speculum by means of lint.

Ergot in Collapse.—It is stated by Beatty, Griffin, and Barker that where there are evidences of great depression of the heart and nervous system, as shown by syncope, collapse, and a feeble or scarcely perceptible pulse; the ergot should not be given until this condition has first been removed by the use of the opium. It is asserted that the sedative property of the medicine would tend to prevent reaction, and directly and positively augment the prostration. Now, it is a fortunate circumstance, that as we suppose, the narcotic and ecbolic principles can be separated, and we can produce one effect or the other at our pleasure; since, in debility, we wish to avoid any approach to ergotism, although the emergencies of the case may call imperatively for increased uterine contractions. In no one case have any symptoms of a narcotic action been observed where the infusion, or the fluid extract, have been administered. Hence,

we conclude that in these forms we may use this medicine in the most profound collapse, and in any case, as in polypus or hydatids, for many days in succession.

Hemorrhage during Gestation.—The ergot could not be admissible at any period during gestation for restraining uterine hemorrhage, since in moderate doses it could only act by causing contraction, and the induction of this condition would be almost sure to produce miscarriage.

To Induce Premature Labor.—Good ergot has undoubtedly the power to originate uterine pain, and it has been used for the induction of premature labor in cases where the pelvis is so contracted or deformed as not to admit of the passage of a full-sized child. By the tables of Ramsbotham and Hoffman, it appears that of thirty-eight children, prematurely born under the ergotic influence, twenty-seven perished. This practice should not be imitated where the child is viable, and there is a possibility of saving its life without endangering that of the mother. But, when the death of the conception, or other sufficient reasons, in regard to the safety of the mother, render the removal of the fœtus imperative, then the ergot affords us, probably, the safest means for this purpose, since the pains, from the imperfectly developed muscular structure of the uterus, cannot be excited to a degree that could endanger any of the soft parts of the mother; and, more than this, the child's head would be readily moulded into a form suited to the passage.

Polypi, Hydatids, etc.—In all cases where the volume of the uterus is increased by any structure loose in its cavity—as hydatids—the ergot should be used for their expulsion, and in the case of polypi, the same remedy affords us the only means we have of bringing the morbid growth through and beyond the os uteri, so as to render its removal by torsion or ligature possible.

The dangers to the mother at the full period, from the negligent use of ergot, are a rupture of the body or neck of the uterus, rupture of the perineum, and injury to the bladder. The walls of the uterus at this stage are more than an inch in thickness, forming a hollow muscle equal in tension and cohesion to any other in the body. I can scarcely believe that any medicine, which merely calls out its excitability, can induce such violent contractions as to make a breach in its structure. We have no analogies to lead us to such a conclusion. The most powerful tetanic spasms, whether from disease, or poisonous doses of strychnia, never produce any such result; and where persons have suddenly and powerfully exerted themselves, the tendons have been known to give way, sometimes a few of the muscular fibres, but it must be a rare occurrence for a powerful muscle to be completely torn across. More than this, rupture of the uterus is less frequent in primiparous women, where the resistance would be the greatest. I cannot but think that all cases of this accident in the body or fundus of the womb must arise through a softened condition of its structure from disease, and would occur, whether ergot was given or not; at least, it is well known that most of the cases were in persons with a deformed pelvis, who had, on previous occasions, been delivered with instruments. I have seen four instances of this sad and melancholy conclusion to labor; two in my own practice, and two in that of others. All had been confined from two to four times, and all had one or more times been delivered with instruments. All were in the first stage of labor, the os uteri high up, and the pains insignificant and of a cutting character. In none was any medicine given, and in many cases, which happened in my presence, the rent took place during the absence of the pain; in one by sitting up in bed for a drink, and in the other on getting out of bed. In all there was a sharp projection of the promontory of the sacrum, unlike its natural rounded contour, which greatly encroached on the capacity and outline of the superior strait. During the latter months the womb and its contents, no insignificant weight, must have rested on this projecting ledge. The pressure might cause softening, or even death in the tissue, precisely as we observe in bed-sores, or in ulceration of the heel in fractures; more especially would this cause be operative, if the woman by a fall, misstep, or riding on a rough road, should cause the womb to strike forcibly on this projecting point, so as to bruise or cause ecchymosis into its tissue. The subsequent pressure would then be far more likely to cause softening. One of my cases seemed to date from the giving way of a night chair, which brought the woman with force to the floor. A post-mortem could not be obtained, excepting in the case just mentioned, and it was shown on dissection, that the ruptured portion was sphacelated, and near by was another point unbroken, through which the finger readily passed. In this and all the other

cases, as was determined on introducing the hand for the purpose of turning, the solution of continuity was on the posterior face of the uterus, at the junction of the neck with the body, in a transverse line, so that the os was partially detached in the form of a ring.

Rupture of the Neck of the Uterus or the Perineum.—The conditions under which the neck of the uterus and the perineum are placed are far different. Their tissues must be distended, and their fibres frayed out and elongated before the child can pass; and we know, by experience, that alternate periods of tension and rest accomplish this object in the most satisfactory manner; but should the child be pushed suddenly and forcibly forward, a rupture would be very apt to occur just before the dilatation was complete. The rent in the neck will generally commence on its free edge and extend longitudinally, or a rim of the os might be torn off. The capacity for resistance of these parts, thus thinned out cannot be compared to a powerful muscular structure more than an inch in thickness, that condenses itself at each pain.

The Action of Ergot on other Pelvic Muscles.—If ergot is a motor-stimulant to the uterus, by exciting the spinal marrow at the origin of the nerves of motion in a specified portion, it follows, that other muscular organs contiguous and supplied by the same nerves should be also under the influence of the same remedy. On this ground it may be used in paralysis of the bladder or its neck and spermatorrhœa, where this arises from muscular atony. Dr. Mitchell, one of the council of this Institution, has attained the best results from its employment in this class of cases. Prof. Barker states that he never knew it to fail in retention of urine after labor.

A gentleman, æt. 35 years, had paraplegia on the right side several years since. He has less command of the leg on that side and a partial loss of sensation in the fore-arm and hand. Sometimes, frequent and irresistible calls to pass urine, that cannot be restrained, will torment him for several days; at other times, for many hours, he is in pain from his inability to evacuate his bladder, when suddenly the flow will commence, over which he now has no command. In this case there was evidently a want of muscular power both in the bladder and sphincter, alternating with a spasmodic condition. Fifteen drops of the fluid extract was administered four times daily, until one ounce and a half were taken; when the medicine was discontinued, as now his relief from this annoyance was complete. Since his improvement dated from the commencement of this treatment, and nature with her expectant modes had never come to his relief in eight long weeks, the result was ascribed to the peculiar action of ergot. In this case no evidences of a narcotic impression were observable, either by a reduction of the heart's action or unwonted sensations at the nervous centres.

Ergot in Menorrhagia.—The ergot has been much given in menorrhagia, and in all other morbid conditions of the uterus, attended with a bloody discharge, as, for example, polypi, fibrous tumors, ulceration of the os uteri, malignant growths, etc. So also in other forms of hemorrhage, hæmoptysis, hæmaturia, et cetera, the same practice is recommended and instituted by several writers. As before remarked, this drug can only act beneficially in arresting any form of internal hemorrhage through its narcotic principle, and to attain this end it must be persevered in until evidences of ergotism are shown in a reduction of the pulse and the supervention of abnormal symptoms in the great ganglionic centres. For this purpose we could not depend upon any preparation deprived of the oil, and in truth the oil would be the one alone fitted to fulfill the indications. Since, however, we are in the possession of more reliable and far less hazardous remedies, we should be scarcely justified in using one that may produce the most lamentable results.

The Ergot for Female Diseases.—The ergot has been employed through an obscure idea of its specific virtues for almost every disease peculiar to females; amenorrhœa, dysmenorrhœa, leucorrhœa, uterine and vaginal, and gonorrhœa, both of the male and female; yet, we need hardly to remark, there are no known properties in this drug to render it of the least avail in any diseases of this character. Since we build our foundations on facts, and have little time for beliefs, opinions, and the dicta of writers, we shall thus briefly dismiss this head of our subject, with the hope, however, that this word specific will ere long be banished from our nomenclature, and that every man in the ranks of our great and noble profession will ever have a reason for the faith that is in him, established on such a basis; notwithstanding it has been scoffed and sneered at as empirical, we shall hold fast to all established truth which now

and ever will be found impressed with the seal of Nature, unchanging and eternal.

In conclusion, we will briefly recapitulate the main points, deduced from the data hitherto presented.

1st. The active principles of ergot are the products of a plant, the oidium abortifaciens. These are peculiar to it, and are in no wise more dependent on the grain-germ, than any plant is on the soil that affords it nourishment.

2d. These principles—not as yet isolated—are, probably, two in number; one of which, contained in the oil, produces narcotic symptoms, and eventually gangrene; the other, remaining in the residue after the extraction of the oil, acts by stimulation on the motor tract of the spinal marrow at that limited portion whence the uterus and contiguous muscles receive their nerves of motion.

3d. The oil is alone efficacious in any form of hemorrhage, excepting in that from enlarged uterus, and we can only look for favorable results when the system has been brought under its influence, as shown by a narcotic impression on the brain snd heart.

4th. So hazardous a treatment cannot be countenanced; since we possess other remedies of known virtues, not only more reliable, but unattended with any risk.

5th. The watery preparations, which, lacking the oil, can be given many days in succession, will act on the motor tract of the spinal marrow, but will not induce ergotism or other evidence of a narcotic poison.

6th. Ergot of good quality causes the uterus to contract with great certainty whenever its cavity is distended, either by a fœtus or a morbid growth. These contractions are tonic and continuous, with periods of remissions and exacerbations.

11th. Hence, this remedy may originate uterine pains at any period of gestation, or cause the expulsion of clots, hydatids, or any other unattached substance.

12th. Likewise, after labor, it will check an excessive flow by closing the mouths of the bleeding vessels through a condensation of the muscular fibres of the uterus. In relaxed conditions it will be, on the same principle, beneficial in after-pains attended with a copious show.

13th. Since we know of no other mode by which ergot can immediately arrest hemorrhage from the pregnant uterus, it should be avoided in all cases where a hope still remains of saving the conception, and its agency invoked only when the fœtus is dead or the safety of the mother becomes our first duty.

14th. In premature labor, induced by ergot, or in labor at the full period, where this drug is given, the child's life is jeopardized in all cases, where for a considerable period previous to the delivery, the uterus is thrown into violent spasmodic action; since thus the supply of oxygen will be most effectually cut off.

15th. Where the child is viable, the ergot should never be used as an expulsive agent to increase pains, already powerful, or overcome resistance from the soft parts of the mother.

16th. It may be required in cases of inertia of the uterus where, with all the parts relaxed, we are quite certain, both from the present appearances and the history of former labors, that the child would be born in four or five vigorous natural pains.

17th. The dangers to the mother from the use of ergot, arise from the uterus thus stimulated, rupturing the unyielding parts in its transit. Thus the neck of the uterus, the bladder or the perineum may receive serious injury.

18th. Rupture of the uterus could hardly occur, excepting in a diseased organ.

19th. A premature fœtus from its small size and the yielding nature of the cranial bones could scarcely, under any uterine effort, cause damage to the soft parts of the mother.

Historical and Critical Observations on the Extirpation of Cystic Tumors of the Ovaries.

From the French of Dr. Jules Worms, (Gaz. Heb., No. 43, 1860.)

By O. D. Palmer, M. D.,
Of Zelienople, Pa.

(*Continued from page* 366.)

If, then, it be demonstrated that in some cases, ovariotomy has wrested women affected with ovarian tumors, and incurable by any other means, from impending and certain death, and if it be even proven that the number of patients restored to life and health by these means, exceeds that of the victims of this surgical intervention, what should we conclude as to the legitimacy of this operation?

We know very well what a great difference of opinion there exists in regard to the solution of this question. But if the reasons that have induced one party to proscribe the extirpation,

are compared with those advanced by the other who justify it, we shall readily perceive that the two sides have, for the most part, endeavored to defend principles of a very opposite nature. The opponents of the operation have particularly in view to maintain the confidence and credit of those surgeons who have for motto, *Primum non voceri.*

To authorize an operation so hazardous, which throws upon the operator the responsibility of the immediate death of the patient, whose life was not very manifestly compromised, is to encourage for the consideration of the surgeon a pernicious practice, that no success can justify. We readily comprehend that, if placed in this light, the scientific body representing and consecrating legitimate docrines in France, should, as it has done, proscribe an operation undertaken by foreign surgeons with the most incredible and compromising levity. The defenders of the operation, on the contrary, have made it appear that its general effects are to convert a miserable and worn-out existence into a long life blooming with health; contending that such advantages should outweigh many inconveniences.

"You who condemn ovariotomy," they say, "under the pretext that it hastens the death of some patients that might still have lived for a while, do you not daily perform analagous operations, in consequence of which many of the subjects succumb? Nor are you always any more sure of being able to accomplish the operation you undertake. On the contrary, you sometimes know beforehand, and almost to a certainty, that if the patient does not die with the effects of the operation, a metastasis of the disease will soon destroy him.

"Is not," say they, "this the case when you apply the knife to cancerous tumors of the neck, the axilla, the face? Besides, you cannot always remove these tumors entirely, because the radices of the disease often penetrate into inaccessible regions. When the operation has been achieved, do you not find many patients that survive but a few moments? and though their diseases condemned them to certain death, they might still have languished during a space of time that nothing would enable you to determine with certainty. When you amputate members for chronic osseous lesions, when you tie large arteries for aneurisms, do you not expose patients to death, whose days have not been numbered?

"Compare the results afforded by these great operations with those furnished by ovariotomy, and you will find the advantages not always on your side."

They urge, further, in favor of their doctrine, that each new extirpation of an ovarian tumor affords new instructions; that a greater precision in diagnosis, and the improvements introduced in operative manipulations, have had the effect already of diminishing the ratio of mortality, and will still more diminish it. Farther, they add, there has happened to ovariotomy what the history of medicine demonstrates to have happened to many other great operations recognized at present as very useful. They were rejected at first, tolerated with suspicion afterwards, and accepted only when the evidences of their advantages vanquished the repugnance which innovation always inspires.

Between these contrary opinions, the arguments in favor of which we have not exhausted, but which indicate a too positive decision on one part, and on the other a too evident sympathy, for certainly a very bold operation, a third party of moderation has arisen. It counts numerous representatives outside of France, and a few inside, who, regretting the excesses that have been committed in the practice of ovariotomy, think that in many cases the operation has been wisely resorted to, and that it still remains as an extreme resource. They believe that the perspective of the danger, to which it exposes the patient, should not efface from their minds the remembrance of the benefits it has often produced, that could not have been realized by other means. If these are circumstances that warrant this heroic measure, we should endeavor to have them specified, and all our efforts should be employed to determine in what conditions resort may be had to the extirpation of tumors of the ovaries. However difficult it may be to trace the limits of this field of action, we may, at least, endeavor to indicate the way followed by those who profess to consult alone the safety of the patient, and who fear excess of temerity, no less than too much timidity.

INDICATIONS OF EXTIRPATION.

The determination of the indications of extirpation constitutes perhaps the most important part of the question discussed. The few surgeons in France who have admitted that in exceptional cases this operation might be resorted to, have not as yet endeavored to fix the conditions under which it would be authorised.

Foreigners even have enriched the science more by the observation of the cases operated upon, than by any exposition of their doctrines in regard to the operation. I shall attempt to determine the indications, (I hope to be pardoned for this bold undertaking, in consideration of my object,) in receiving, as the point of departure, the scattered opinions put forth on this subject, the mode of development of the different forms of tumors of the ovaries, the influence exercised by these on the health, the appreciation of the surgical resources generally employed, and especially an attentive examination of the history of persons on whom extirpation has been effected. These are the conditions, the existence of which it seems proper should be plainly and fairly demonstrated, in order that ovariotomy should become a legitimate and efficacious means of safety to the afflicted, and to the surgeon an undertaking which neither to his conscience nor to his consideration, would give anything to fear from any consequence that could follow.

1st. The disease should depend *solely* upon the presence of a tumor of the ovaria, *cystic* in character.

2d. All the means of cure, *less dangerous than extirpation*, should have been put in requisition in vain.

3d. The health of the patient must be sufficiently compromised so as to induce the belief *that death is certain and near.*

Let us examine these different conditions. The first to be demonstrated is that the gravity of the disease depends *solely* upon a cystic tumor of the ovaria; we must ascertain that there exists no serious affection, independent of this organ, and must assure ourselves by a minute examination that the patient offers no sign of pulmonary tuberculization, organic lesion of the heart, stomach, or uterus, no symptoms of diabeti, of Bright's disease, or cancerous affection, etc. The greatest difficulties will depend upon the last two affections.

As ascites and anascarca frequently coexist with ovarian tumors, it will be very important to endeavor to determine whether dropsy, not encysted, when found, is a consequence of the pressure of the tumor, or whether it is independent. We must never in these cases neglect to examine the urine on other causes.

The nonexistence of cancerous cachexia should especially be demonstrated; and this is not always easy.

The possibility of the translation of the disease to the other ovary, or of its development in other organs under cancerous influence, has often been considered as an objection to ovariotomy. But this was more in view of the theoretic idea, which caused tumors of the ovaries often to be considered as cancerous. In practice it is rare to see the feminine organization become infected with cancerous degenerescence, where the ovaries are the point of departure. We find, with but rare exceptions, in the accounts of autopsies of women who have died with ovarian cysts, whether naturally or by surgical interference, that other organs have been found affected with cancerous transformations.

Without wishing in any manner to prejudge the nature of heterotrophic affections of the ovaria, we may, however, premise that the origin of these is due to a special aptitude of this organ, to become the germ of errors in nutrition, the most singular and varied, and without analogy elsewhere, but which more frequently have no action on the general organization other than by their mechanical presence. If, however, in concomitance with an ovarian tumor, we should recognize, either before or after puncturing, an induration of the mesenteric glands, or that there exists a cachectic taint, we should take these as a contra-indication to extirpation, even as a dernier resource.

Occasionally, though rarely, death has resulted from cancerous degenerescence of the remaining ovary or other organ, after a supposed cure by an operation. The following is a striking example:

Case 3. The 30th August, 1858, Dr. Hutchinson performed ovariotomy on a woman excessively emaciated, æt. 40 years. The tumor dated from eighteen months, and had been twice punctured during the two months preceding the extirpation. The rapid decline and the cachectic coloration of the skin led to the supposition of the existence of an ill-conditioned affection. For six weeks this woman had not been able to quit her bed. The tumor was evidently composed in part of solid masses, and had otherwise a very irregular form. In the fore part was a cyst of large dimensions, evidently fluctuating.

The diagnostic signs were in no ways doubtful; the tumor was a cyst composed of sacs filled with fluid, and of solid substances. In the presence of these symptoms, there was nothing to hope from injections of iodine. The left

ovary was diseased, and the whole left side of the abdomen was dull, the right side giving, on percussion, an exaggerated resonance. The woman, though informed of the danger attending its removal, desired to be relieved of her burthen.

She entered the Free Metropolitan Hospital. An incision was made along the *linea alba* from two inches below the umbilicus, to within two inches of the *ossa pubis*. A smaller incision would not have been sufficient to let pass the degenerated mass. Many adhesions were separated, and without much difficulty, causing no effusion of blood. The pedicle, though short, was seized and fixed within the wound. The incision was closed with silver sutures. This woman recovered rapidly, and now, seven weeks after the operation, has good health, and is becoming plump. It is worth remarking, that the earthy color, before the operation, so intense, is beginning to be replaced by a more natural coloration of the skin.

The extirpated tumor was a polycystic mass. In the fore part was found a sac containing about 9 lbs. of liquid; behind it were discovered a large number of cysts, smaller, but of various dimensions. This sample presents the whole series of pediculated polycystic degeneresence. At certain points the thickness of the walls of the sack attained almost an inch.

This satisfactory result was published seven weeks after the operation; but some time later, Dr. Hutchinson gave out that this woman had died from cancerous cachexia. He has not indicated the time of the woman's death, nor the form of cancerous development, but as the existence of the diathesis was evident at the time of the operation, a contra-indication to extirpation might have been obtained from the symptoms of the case.

At times, however, there exist no signs of cachexia, as intimated by the general physiognomy of the patient. The operation is performed, and the patient, cured of the tumor, afterwards succumbs at an indefinite period with degeneration of some other organ. But in those, however, very uncommon cases, in which the ovarian tumor is of such a nature as after extirpation to induce a propagation of degeneration to other organs, it proceeds very rapidly, and the patients generally die in the space of six months or a year.

We could offer no better proof of the rarity of such secondary attacks in females who have had the good fortune to survive the dangers consequent to the operation, than the following: Dr. Simon has examined all the operations performed in Germany, and has arrived at the deplorable conviction that, in his country, 44 women have been lost out of 55 operated upon. All these have died within a few days after the operation; but of the 11 recovered women, 10 were still living in 1858; 2 had had children; the eleventh died of cholera, some years after the operation. Now, at the date of M. Simon's publication, 1858, there had elapsed since the operation in the first 7 cases of cure at least 8 years; in the three last 7, 6 and 2 years; and these three women were still "*très bien portantes.*"

Not wishing to draw a conclusion from the statistical account of this learned gentleman, who is very positive in opposition to extirpation, we may assure ourselves that the propagation of degeneresence of the ovary to other organs is the exception, and in no way constitutes the rule, as is sometimes contended for. From these results we may predicate the principle that a very long period is not necessary to expire before we can draw the conclusion that a permanent cure has been effected.

(*To be continued.*)

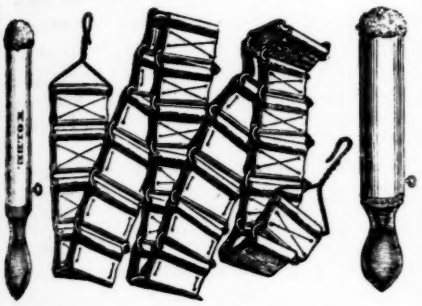
A Valuable Improvement on Pulvermacher's Patent Hydro-Electric Chain Battery, by Chas. E. Hackley, M. D., Resident Physician of Philadelphia Hospital.

By H. Earnest Goodman, M. D.,
Resident Physician of Wills Hospital.

Dr. Hackley, while Resident Physician of Wills Hospital, a few months since, was induced from the almost daily use of the Pulvermacher Chain Battery by the Attending Surgeon, and its constant liability to get out of order, to invent a simpler one. After several trials he succeeded in producing a chain battery, the simplicity of construction of which, its cheapness, and the production of a continuous current of considerable intensity with very little liability to get out of order, renders it far superior to Pulvermacher's patent, and for which Dr. H deserves the thanks of the profession.

The original chain batteries made by Dr. Hackley (of which the cut is an exact representation) are flat chains, three feet long, 1 inches wide, numbering about forty links, each link consisting of a copper and zinc plate, interposed by a piece of thick cloth of the same size, and fastened together by strong thread.

The links are connected by copper wire, the last one having a hook by which it is attached to an eye on the outer surface of the "conductors," when the chain is in operation.



The metal tubes or "conductors" are of brass or copper, with wooden insulating handles.

When wanted for use the chain is dropped into a bowl of common distilled vinegar, allowed to remain for a few moments until the cloth between the plates becomes saturated; it is then taken out and hooked to the conductors, in the ends of which a piece of sponge moistened with vinegar or water should have been previously placed; when by grasping the conductors at their insulating handles it can with facility be applied to any part of the body.

The Hackley Chain Battery has been used with decided benefit by Dr. Hewson, Surgeon to Wills Hospital, in the treatment of many cases of opacity, pustule, or ulcer of the cornea, corneitis, and some forms of mydriasis, occurring in that institution.

It is due to Mr. Kolbe, to whose kindness I am indebted for the above cut, to say that he is able to furnish the Hackley Chain Battery at a very limited expense.

Illustrations of Hospital Practice.

PENNSYLVANIA HOSPITAL.

SURGICAL CLINIC.

Service of Dr. Jos. Pancoast.

EXTENSIVE INJURY OF THE HAND FROM THE DISCHARGE OF A PISTOL THROUGH THE PALM.—CONSERVATIVE SURGERY.

A man, on New Year's day, had a pistol discharged through the palm of his hand, so as to entirely comminute the metacarpal bone of the ring finger, and lay open completely the palm of the hand, stripping off the integuments from the middle finger, and leaving the hand quite bare, as though it had been opened with an axe.

The metacarpal bone of the little finger was dislocated and thrown entirely out of its articulation. The metacarpal bone of the ring finger was taken away, and the phalanges with it. As the skin had been removed by the explosion, from the inner covering of the middle finger, the integument to cover the part was taken from the outer side of the ring finger, so as to make its inner surface cover the inner surface of the large finger, thereby transplanting the natural integument from one finger to another.

The fact should always be borne in mind, that the skin of the hand is so vascular that it can be transplanted from one place to another almost anywhere on its surface.

The metacarpal bone of the little finger was returned to its proper position, and the ligaments have united.

Dr. Pancoast referred to a case he operated upon last year, (see REPORTER, Vol. IV., page 81,) where, in an extensive injury of the hand, completely crushing the first row of wrist bones with their metacarpal bones and phalanges, leaving the thumb, but without a socket, he placed the metacarpal bone of the thumb into the socket originally intended for the os magnum, in the hope that nature would form a new articulation. The result has been that an imperfect articulation has been formed; the thumb keeping its mobility, though the case has been lost sight of for some months, and there is now probably more motion of the new articulation than when the patient was seen last.

INJURY OF THE HAND FROM THE BURSTING OF A GUN —AMPUTATION AT THE WRIST.

Another case of injury was presented, in a man who, from the bursting of a gun, had received an injury of the hand. It was so torn and lacerated, that no portion of it could be saved, and amputation was performed the day after the injury, at the wrist joint.

The integument to cover the stump was taken from the back of the hand, which was very scant, being just sufficient to conceal the ends of the bones; but in cases of this kind, the tissues are held so firmly that there is not so much retraction as after an amputation in the middle of the forearm, and therefore less material is necessary than in other amputations, and a scanty flap will suffice. The parts were united with a few sutures and adhesive strips, and the flow from the blood vessels was arrested by acupressure after the plan of Simpson, of Edinburgh. Generally, on the fourth or fifth day the pins can be taken out.

Dr. Pancoast has used these pins repeatedly,

and has not yet been troubled with any secondary hemorrhage. There has been no hemorrhage in the present instance, and no covering has been put on the end of the stump. The patient is doing very well and will have the whole length of the forearm.

CONGENITAL PHYMOSIS — OPERATION AFTER THE MANNER OF RICORD.

A young man presented himself with congenital phymosis. Prof. Pancoast, after describing the various methods of the operation of circumcision, stated that he would perform his operation in this case with Ricord's new instrument. It consists of a peculiarly shaped pair of forceps, working with a spring and intended to confine the prepuce in front of the glans, and at the same time protect it.

The prepuce being pulled forward, the instrument was applied and two or three ligatures passed through the prepuce, which was then shaved off in front of the instrument.

The apparatus was then loosened, and the mucous membrane divided with a pair of scissors. The stitches were then fastened, which completed the operation.

WILLS HOSPITAL.

Service of Dr. Morton.

Reported by H. Earnest Goodman, M. D.—Resident Physician.

CAPSULO-LENTICULAR CATARACT.

John B., a strong, hearty fellow, æt. 23, from Lebanon county, Pa., entered Wills Hospital January 8th, with capsulo-lenticular of the left eye. It is nearly five years since he became blind by it.

He cannot trace any assignable cause for the cataract, but said that blindness came on in one night. A year ago he was a patient in this hospital, and was treated for mydriasis of the right eye.

January 9th. Dr. Morton performed the operation of division through the sclerotica (sclerotonyxis) on the left eye.

The patient's pupil having been previously well dilated with a solution of atropiá sulphat., (g. iii to ʃ℥i.,) a knife needle was inserted through the sclerotica about two lines from the outer edge of the cornea, just below the equator of the eyeball, to avoid the ciliary artery, and carried forward in front of the lens, the capsule of which was spread over the anterior portion like a curtain, and so tough that it was impossible to cut through it without displacing the lens; the remainder of the cataract was soft and easily cut up by light successive strokes of the knife.

A large portion of the divided lens was thrown into the anterior chamber.

The anterior part of capsule will, in all probability, have to be extracted by a subsequent operation.

The after treatment consisted in placing the patient in bed a few days, keeping him on a nourishing but unstimulating diet, and applying ext. belladonna over the brow, and sol. atropiæ in the eye once daily.

January 10th. Patient slept well; some little pain in the eye and forehead followed the operation, but no sickness of stomach. Eye not at all inflamed, scarcely congested, and the pupil well dilated.

January 12th. Patient was allowed to get up yesterday; the slight congestion has all disappeared. The patient being young, the cataract bids fair for a speedy absorption.

PTERYGIUM.

Samuel S., æt. 53, has had pterygia growing on his eyes for the last ten years. As they never occasioned him any trouble he did not think of having them removed until they began to grow over the sight.

When he first applied (January 7th) there was a pterygium on the inner side of the right eye, extending over the cornea, opposite to the edge of the pupil; while, what is unusual, (pterygium on both sides of the same eye occurred only twice to Beer,) there was a pterygium on both sides of the left eye; the inner one extending over the corner opposite to within half a line of the pupil, and the outer one extending about two lines over the outer edge of the cornea.

Dr. Morton removed these pterygia January 9th, (after first applying the spring speculum to keep the lids apart,) by seizing them about their middle with the toothed forceps, raising them from the sclerotica, and then cutting them off with a pair of curved scissors. The edges of the wounded conjunctiva were brought together by a silk suture.

January 11th. Wounds of conjunctiva have healed without any inflammation. Removed the stitches.

January 14th. Touched the conical cicatrices with a solution of argent. nitrat. (gr. xxx to ʃ℥i.)

CASES OF STRABISMUS.

Case 1.—*Strabismus Divergens.*—Grace R., æt. 19, has had a divergent squint of the right eye since childhood, with imperfect vision. She could not read two line brevier round face. The opthalmoscope revealed only a slightly increased vascularity of the retinal vessels.

Dr. Morton performed on this case the ordinary operation for divergent strabismus. It consisted in first seizing the ocular conjunctiva with the toothed forceps, cutting it and the sub-conjunctival tissue horizontally, with the curved scissors, so as to expose the white, smooth sclerotica, then a blunt hook was slipped upward along its surface until the tendon

of the external rectus was fairly secured, which was then divided.

The after-treatment consisted in a bandage over the sound eye so as to make her use the one operated upon.

The advantage in this mode of opening the conjunctiva, is that it causes little or no separation of the divided edges, and, consequently, the wound heals by first intention.

January 11th. The eye is quite straight. The wound has healed, and the patient says her sight is improving.

Case 2.—Strabismus Convergens.—James B., æt. 7, has had strabismus in the right eye for two years, with a very singular rotary motion of the eyeball continually. His father could not trace the strabismus to any particular cause. The case had been operated on about a month ago without any benefit.

January 9th. After the patient was etherized, Dr. Morton performed a similar operation on the internal muscle.

January 11th. Eye perfectly straight, rotary motion of ball still continues. The wound in the conjunctiva has healed by first intention.

UNIVERSITY OF PENNSYLVANIA.

MEDICAL DEPARTMENT.

Service of Prof. Pepper.

PARTIAL PARALYSIS AFTER DIPHTHERIA.

A man presented himself at the clinic, who two months ago had had diphtheria, and is now suffering in consequence, from one of the usual sequels of this disease, i. e., a paralytic condition of the palate. The paralysis, however, is not total; it might rather be called great debility of the velum and surrounding parts, giving rise to alteration of the voice, difficulty of swallowing, etc.

The treatment should be tonic. Prescribe the following:

℞. Extract of St. Ignatius' bean, 8 grains,
Sulphate of Quinia, 30 grains,
Vallet's mass, 1 drachm,

To be made into 30 pills, of which he is to take one, three times a day, after meals. At the same time electricity is to be applied to the throat.

JEFFERSON MEDICAL COLLEGE.

SURGICAL DEPARTMENT.

Service of Prof. Pancoast.

EXOSTOSIS ON THE THUMB.

This is an affection rarely seen in this situation. Nothing can cure it but laying the part open by a free incision and cutting off the connection with the bone. These exostoses are found very frequently on the side of the big toe. They arise from the fibrous matter which covers the last phalanx both of the toe and the thumb, becoming inflamed; a deposit of lymph takes place, which becomes cartilaginous and finally ossified, so that it cannot be relieved except by opening the parts, and with a pair of cutting pliers separating the part from the bone.

SOFT, BRAIN-LIKE TUMOR IN THE VELUM PENDULUM PALATI—REMOVAL.

This is in an adult female, and the case is one of novelty. It is a tumor developed in the *velum pendulum palati*, just above the tonsil glands. The tumor has been opened twice, during the progress of its growth, by the physician in the country, where the patient resides. On one occasion it was opened without any discharge following, and a subsequent opening resulted in the discharge of some granular matter. The tumor has grown since, is now the size of an egg, and has so encroached upon the cavity of the mouth that the patient cannot swallow without difficulty. It presses down the tongue, and is in the substance of the velum.

There is a mistaken impression prevalent, Prof. Pancoast remarked, with regard to the structure of this velum. It is thought to be a very thin structure; but he had demonstrated in his lectures, that it has several bands of muscles in it, half an inch broad, and nearly a half an inch thick in their centre. There are often abscesses of the velum; abscesses of the tonsils, so called, are often abscesses of the velum. The tonsils are nothing but a set of mucous follicles. Inflammation there throws out sometimes lymph, sometimes pus, and sometimes there is inflammation on the outside of the gland, and the lymph and pus deposited without the cellular cap in which the tonsils are lodged.

When the tumor, in the present instance, is pressed with the fingers it yields, and there is little doubt that some fluid is there, or some very soft matter. But often, when a tumor seems to be filled with fluid, and fluctuates under pressure, it will be something worse than it appears, and contain a brain-like matter. This, of course, must be removed by an operation, and, if there be a cyst, it may be taken out whole with its contents. There is no hemorrhage to dread in the operation, with the power we have for arresting hemorrhage.

The best way to perform this, and similar operations, is first to get hold of the velum by means of a curved needle, armed with a pretty stout ligature. Placing the needle in a Physick's long forceps, the ligature is to be passed through it so as to hold the central portion; and then a section on each side of the part grasped is to be taken out, and if there is any solid substance within, it will be pealed out by the end of the finger.

The tumor after removal presented the following appearances:

The whole mass was found lodged in a sac larger than a duck's egg. This sac was filled with a gelatinous substance, which was believed, at the time of the operation, to be of the nature of a muco-cellular or muco-fibrous tumor.

The sac must have been in close contact with the parotid gland, and as Prof. Pancoast has frequently removed such tumors from the outer surface of the parotid gland, he presumes that the peculiarity of the tumor arose from its presence by the side of the parotid gland.

The result of the microscopical examination by Dr. James Darrach, was as follows:

There were seen delicate fibres spread out as if about to form themselves into loculi, in which to lodge the gelatinous mass, just as is seen in specimens of gelatinous cancer.

Cells were observed spreading through the mass to develop themselves into fibres, looking like the trabecules of the spleen, especially of the lower animals.

The tumor was found to approach the fibro-cartilagenous structures, and not to be at all cancerous.

The cavity is to be dressed with a solution of alum, or with Monsels' salt.

EXTENSIVE MEDULLARY CANCER OF THE ANTRUM—REMOVAL OF THE TUMOR, WITH THE SUPERIOR MAXILLARY BONE AND ADJACENT BONY AND SOFT PARTS.

This is in an elderly female from the interior of the State. The affection is of some eighteen months' standing. The tumor occupies the antrum of the upper jaw on the right side, and by careful examination of some of the matter under the microscope it has been found to be soft cancer, or fungus *hæmatodes*.

These tumors of the antrum are seen in persons of all ages, probably more frequently in advanced life, though Dr. Pancoast has seen them in children, in babes, and operated on them.

They begin, usually, in the lining membrane of the antrum, a mucous membrane, over the outer surface of which, between it and the bone, runs a plexus of nerves, many of which go to the incisor teeth.

In elderly people this antrum is a large cavity, and being bounded inferiorly by the alveolar ridge, which disappears when the teeth disappear or are removed, there remains often but a very thin structure, indeed, below the lower wall of the antrum. If there is a chronic inflammation of this membrane, giving rise to deposits, it will, at first, be accompanied with pain, by involving the plexus of nerves over the outer surface. The first intimations of this disease are excessive pains in the cheek bone, coming on periodically, for some reason that we do not understand.

In the present case, these pains were thought to be toothache, and one tooth after another was extracted, until all the teeth in the upper jaw were removed. But the pain continued. After a while an opening took place in the mouth, near where one tooth had been drawn. Sometimes, indeed, these diseases of the antrum arise in consequence of disease of the inner lining or socket of the tooth.

From this opening, there is a sanious discharge, excessively offensive, and passing into the nostril. There is constant and continuous pain, and the disease has extended high on the jaw, and very probably the absorbent vessels have gradually taken away the bone, so that there may be no bony wall at all. In addition to this the disease has involved the masseter muscle.

There is anchylosis of the jaw, and the patient's mouth constantly open. It is one year since all the teeth have been removed.

The only chance to cure this case is to remove the whole diseased mass.

Whenever the disease has not surmounted the boundaries of the cavity, there is a good chance of effecting a cure; for the operation can be made entirely beyond the boundary of the disease; but when it has involved the periosteum and is contiguous with the substance of the cheek, it almost always returns and finally destroys the patient.

Various methods have been advised for performing the operation; a favorite one is a V shaped incision. Another is sometimes made in the shape of the letter N. In the present case, where there will be a difficulty in removing all the diseased portions of tissue, the object will be best accomplished by means of a V shaped incision, with the apex down and the base upwards.

The operation was then performed by making an incision in the vertical line, across the face, over the orbicularis muscle, and over the angle of the mouth, cutting the facial artery; the other incision was made from near the inner canthus of the eye to that part of the lip over the canine tooth. When the parts were exposed, the orbital process of the malar bone was divided. After separating the nasal process of the upper maxillary bone, the roof of the mouth was divided with a chain saw, and the palate bone separated from the velum. During the operation, the masseter muscle was found to be diseased, and part was cut away; the malar bone and part of the zygomatic process, belonging to the temporal bone, had to be taken away. Many of the branches of the internal maxillary artery were cut across, but the main trunk was not interfered with. The disease involving the coronoid process of the lower jaw, a part was

removed, cutting across the tendon of the temporal muscle.

The infiltration of cancerous matter extended into the internal pterygoid muscle, and its origin in the fascia between the pterygoid plates in the pterygoid process of the sphenoid bone. This was scraped out and the hot iron applied to the parts.

Jan. 5th. The patient has had no fever, and rested pretty well at night, though a little uneasy.

The wound united everywhere by the first intention.

The periosteum which lines the lower portion of the orbital cavity, having been taken away on account of its morbid appearance, this gave rise to some inflammation, which produced œdema of the lid.

The sutures have been taken away and a pad has been placed in the mouth to fill out the cheek, until nature shall have overcome the necessity for such a resort by the organization of plastic matter, which will be effused from the surface of the wounds made in the operation.

The patient has been allowed beef tea and milk punch. It is important to bear in mind that in these cases supporting treatment is generally necessary.

All the lines of incision about the face were curved, not only because the deformity would be thereby diminished, but also because there is less power of the muscles to draw open the sides of the wounds, than if the parts had been divided in straight lines. Another object gained is, that by these means every portion of the skin can be properly adjusted, and the natural position of the two flaps restored, which is necessary, in order to avoid paralysis of the face, which might otherwise ensue; for, in these operations the nerves of the face are necessarily divided; but if they are very nicely approximated, there will be little or no interruption in the transmission of the nervous influence.

EDITORIAL DEPARTMENT.

REVIEWS AND BOOK NOTICES.

AN ELEMENTARY TREATISE ON HUMAN ANATOMY. By JOSEPH LEIDY, Professor of Anatomy in the University of Pennsylvania, etc., etc., with 392 illustrations. Philadelphia: J. B. LIPPINCOTT & Co. 1860. pp. 663.

This is a neat volume of 663 pages, the execution of which reflects great credit on the publishers. As far as it goes, it is an excellent compend of human anatomy. There are, however, already too many such hand-books, or, as they might be called, elementary toys.

From one occupying so prominent a position before the scientific world as Dr. LEIDY, the profession had a right to expect a thorough treatise, which should attain to the dignity of a standard American book. The anatomical chair of the University of Pennsylvania has furnished two valuable treatises upon the subject, those of Wistar and Horner, which at the period of their issue were elaborate productions, reflecting honor upon their distinguished authors.

Although we regret that Dr. Leidy has not aspired to make the present work an exhaustive treatise on human anatomy, still it is well suited to present in a concise manner the most prominent facts of this branch of science.

Among some of the exceptionable points in the work we may notice the following. The doctrine of *free cell-development* retains a place undisturbed in the introductory chapter of the work; this doctrine is no longer tenable in the present state of histological science.

The chapter on the development of bone, does not communicate very satisfactorily even what is known of the process, in consequence of the absence of all detail; while the subjects of *aponeuroses* and *fasciæ* are dwelled upon in so loose and meagre a manner that it is impossible for the student to obtain a definite and satisfactory knowledge in regard to them.

The attempt to anglicize the nomenclature of anatomy we consider as one of the weakest features of the work. It is not carried out rigidly and consistently, and for this reason, instead of simplifying the study, will add still more to the confusion of terms already existing.

Beside, every inducement should be held out for the study of the ancient languages to those who aspire to the learned professions, and the classic terms of anatomy, the same among all civilized nations, form, like the symbols in chemistry, a bond of union among the learned of all nations, which we would be loth to see destroyed by the establishment of a nomenclature peculiar to each vernacular.

In concluding this necessarily short notice we must call attention to one marked feature of the work—its illustrations. They are among the best that we have ever seen, and the large number of one hundred and nine are from original drawings, mostly microscopic and histological. Some of them are really gems, both as regards fidelity to nature and artistic execution.

New Exploring Expedition.—A scientific expedition is about leaving France to explore Southern Siberia, and particularly that portion contiguous to the Amoor. It will be headed by Dr. G. MEYNIER and M. LOUIS D'EICHTHAL; and a commission has been appointed by the Paris Academy of Sciences to draw up instructions for the expedition. A new expedition to Central Africa, in search of Dr. VOGEL, is being prepared in Germany. Committees for the promotion of this undertaking, which promises to become a national one, have been formed in different places in Germany.

THE MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, SATURDAY, JANUARY 19, 1861.

CORONERS' LAW.

With all the blessings and benefits of democratic institutions, there are some evils peculiar to our mode of government. Fortunately, however, they are not irremediable. They are not necessary parts of the fundamental organic constitution of our laws and institutions; but, to use the gardners' phrase, suckers that have shot up from the roots, and climbers that have, in luxuriant abundance, entwined the branches and twigs of our national tree, simply because we have not taken sufficient pains to use the pruning knife. In this way it has happened that the climbers and suckers in our political vegetation have, in some instances, attained such enormous growth as seriously to cripple and dwarf the healthy growth of the tree, and even to endanger its life.

The Coroners' Laws, as they exist with more or less uniformity in all the States, are in this sad condition, and not a day passes which, were we inclined to adduce examples, would not furnish striking instances of their crippled and dwarfed state. The duties of coroners, as defined in our statute books, are stated in terms so general that, beyond the mere formalities of procedure, everything is left to the discretion and intelligence of the coroner. While he is authorized, in cases where he deems proper, to have a post-mortem examination made, the necessity and propriety of such a measure, indispensable in all cases of sudden death, is left to his judgment; while the law allows him to call to his aid physicians to make an examination, it is left entirely to his discretion whether he will call in men capable of determining important medico-legal points, or ignorant quacks. It is for this reason that so many blunders have been made, until the community has almost become accustomed to look upon a coroner's inquest as little more than a juridical play, ordinarily a farce, but sometimes terminating in a drama, the chief end of which is to fill the purse of the coroner, the *quasi* theatrical manager, who is always in for his benefit.

The real difficulty lies, as has been repeatedly pointed out, in the circumstance that the office of coroner having become limited to determining the causes and criminal or accidental nature of sudden death, or death not sudden, but in which, from the peculiar circumstances of the case, no cause can be assigned, as in persons found dead, the old law does not provide for the appointment of proper men to the office.

With the slender knowledge of pathological anatomy possessed, even by physicians, three or four hundred years ago, and the state of physiology, anatomy, and chemistry then, regarding medico-legal questions, it was not very important whether the coroner was a medical man or not. Medico-legal questions were determined, so to speak, by the rational signs, and the physiognomy of death, while Madame Gossip played even a much more important part in the formation of a verdict than she does now. It was not necessary that the coroner should be a medical man, nor, indeed, that physicians should be at all consulted, in an age when the bleeding of the wounds of a dead man, in the presence of a suspected person, was taken as damning proof that the latter was the murderer.

At present the position of the coroner to the community is one entirely different. Not only have deaths by violence, involving the question of criminal neglect and carelessness, or premeditated criminal intent, become more frequent, but their discovery is rendered more difficult, on account of the more subtle agencies which the advance in science has enabled the felon to use for his purpose, and the improved means of escape; while, at the same time, the more enlightened administration of criminal law demands more full and satisfactory proof of the guilt of a prisoner or his innocence.

Under these circumstances it is of the utmost importance that the first examination in cases of sudden, unaccountable death, accompanied with even the slightest suspicion of foul play, should be as intelligent and thorough as possible. Innocent parties may thereby be saved from suspicion, or, what is worse, a false indictment and trial, which, though they be acquitted, will be a curse upon their whole life; while, on the other hand, the guilty will be less apt to escape discovery.

But, to attain this object it is necessary that the coroner, upon whom rests the responsible duty of standing between the living and the dead, for the safety and protection of the one, and as the avenger of the other, be a medical man. The questions involved at the present day, in every case subject to a coroner's inquest, are such as cannot be properly understood and duly investigated, except by medical men of a sound and thorough scientific education.

For this reason, we think it proper at this time, when the Legislatures of the various States are in session, to call the attention of the profession to the importance of doing all in their power to induce an entire re-organization of our coroners' laws upon a basis in accordance with the spirit of the age and the object of law and humanity. We would suggest that the Legislatures appoint committees to confer with similar committees appointed by the State Medical Societies. In this manner, we doubt not, required changes could be brought about speedily, and it would not be long before we would see the salutary effects.

But, aside from the juridical aspect of the case, the re-organization of the coroners' laws upon a true basis, and the appointment to this responsible office of competent physicians only, would be followed by most valuable contributions to science. What a mass of valuable scientific material, in a general, scientific, and medico-legal point of view, is now thrown away, which, under the hands of observing physicians, would enrich the annals of science, contribute, perhaps, to the solution of questions yet in obscurity, and thereby, in the end, facilitate the ends of law and justice. We need only point to the valuable investigations of Dr. Boisliniere, coroner of St. Louis, on sun-stroke, during his public service, to show the immense loss which accrues directly to science and indirectly to the commonwealth, because the law does not make it imperative that competent men only should fill a position—at once one of the most responsible in the administration of the law, but now looked upon as one of the most contemptible in the gift of—not the people but—wire-pulling politicians.

SPIRIT OF THE MEDICAL PRESS.

The Atlanta *Medical and Surgical Journal*, in its January number, has an article in which it favors secession and advocates the disruption of the American Medical Association into two sectional halves. It says:

"It is in medicine as in religion and politics; so long as we are contented with being tributaries, and tamely submit to the most unreasonable fanatical dogmas, all is well; when these cease, war commences."

We do not know, and doubt whether any one knows, what "*unreasonable fanatical dogmas in medicine*" any section of the Union has been asked to submit to by another section. But this much we know, that the Atlanta *Medical and Surgical Journal* will forever hereafter be identified with the Quixotic attempt of making SCIENCE SECTIONAL.

The New Orleans *Medical News and Hospital Gazette* hopes for the continuance of the Union. The St. Louis *Medical and Surgical Journal* takes a similar position. The Nashville *Journal* also.

There is no danger of a disruption of the American Medical Association. Medicine is cosmopolitan, and in spite of the Atlanta *Journal*, the day will never come when science will be made subservient to the interest of selfish demagogues.

OWING to a revision of our weekly mortality table, by which we hope to render it much more valuable, we are obliged to omit it for this week. Although this number contains more reading matter than usual, still a great deal has been crowded out.

WE CALL attention to Prof. Chapman's elaborate and exhaustive paper on Ergot. It will be read with interest. The subject is one of great importance to the general practitioner.

SUBSCRIBERS will please be particular, in dating their letters, to give in full the town, county, and State, in which they reside. In many instances we have been put to much inconvenience in searching through the mail book for the names of subscribers who have neglected to date their letters properly.

PHILADELPHIA SUBSCRIBERS will please notify us when they change their residence.

Correspondence.

THE ETHER PATENT.

Messrs. Editors:—In the last number of the Reporter, you copy an editorial article from the *N. A. Medico-Chirurgical Review*, alluding to the late refusal of the Patent Office to renew the patent granted to Drs. Morton and Jackson for the anæsthetic use of ether. I know but little of Dr. Morton personally, or of his conduct in regard to the patent, but from the manner in which his claims and his character have been endorsed by most of the leading men in the profession in this country, I cannot think him deserving of the obloquy which the article alluded to tends to cast on him.

The editor of that journal says:—"It is strange, passing strange, that Dr. Morton, after having achieved so wonderful a discovery, should have been so insensible to his fame as to seek for a patent right. Poverty is a thousand times preferable, under such circumstances, to the most inexhaustible riches extorted from the groans of the people."

In relation to this, I have only to say, in extenuation of Dr. Morton's course, that, at the time of the discovery, he was *not a medical man*, but a practicing dentist, who was not amenable to and knew nothing of medical ethics. His age was but twenty-four years, with but slight experience in the world, and he probably comprehended no other method of, with certainty, securing to himself the credit of the discovery. His object, in obtaining the patent, was certainly not to restrain the use of the anæsthetic—as is evident from the unrestrained use of ether during the fourteen years of the valid existence of the patent—but to enable him to retain the discovery under his own control whilst perfecting it; for, at that time, the use of complicated inhaling apparatus was considered essential.

Should Dr. Morton have succeeded in getting a renewal of his patent, there is no reason to think that he would have attempted to restrain its general use more than he did under the first issue of the patent. But it would, I think, have been, under the circumstances, a justifiable means of compelling the *government* to recompense him for the losses incurred in making and promulgating the great discovery, by paying for the privilege of its use in the army and navy, after his appeals for compensation were rejected by Congress, for I agree with the editor of the *Review* that "it is a burning shame upon our country and upon the age, that our national legislature has not made him a liberal compensation for his great and inestimable services."

The refusal to renew the patent was, it will be noticed, merely on technical grounds; in equity, Dr. Morton had the same *right* to a second patent that he had to the first. The formality which was wanting was the signature of Dr. Jackson to the application for the extension, as his name was associated with the original grant. As Dr. Jackson had many years previously assigned to Dr. Morton all his share in the patent, it is not to be wondered at that he was not interested in its renewal. S.

MEDICAL EDUCATION.

New Jersey, Jan. 7th, 1860.

Messrs. Editors:—Much has been said in the Reporter in reference to raising the standard of medical attainment, but nothing have I seen which appears to me satisfactory or practical. To prevent individuals from entering upon the study of medicine who are incompetent, not only in an educational point of view, but also in a moral, we must stop them before they have invested any capital. This may be done, not by leaving it with the physician, who may have intimate friends or relations wishing to enter his office for study, whether fit or otherwise, but by appointing a Board of Examiners in each State, whose duty it shall be to examine each individual, morally as well as educationally, before he shall have commenced the study, or have entered the office of a physician. A certificate from such a Board should be required by every physician before he acts as preceptor. This would relieve the physician of all responsibility, and prevent him, as might occur in some instances, taking students for mercenary or other purposes. It is folly to think of stopping an individual from continuing his study who has already occupied much valuable time in so doing, and also spent considerable money. Yours, W.

CHILBLAIN.

Messrs. Editors:—Having used the adjoined formula with really remarkable success, I have thought that it might not be without profit to your readers:

℞. Ferri per sulph. (Monsel's solution,) say ʒj.
Tinct. iod. } aa. say ʒj.
Lin. saponis, }

The quantity of each article to be directed, of course, by the indications of each particular case.

Before applying the liniment, which may be painted with a brush, or applied by wrapping up the toes with saturated raw cotton, the feet are to be held for two or three minutes in cold water, and next rubbed into a glow with a coarse crash towel.

James E. Garretson,
1537 Chestnut street, Philada.

NEWS AND MISCELLANY.

A Curious Method of Relieving Retention of Urine.—Dr. T. C. Madison, in his contribution to the recently published medical statistics of the United States Army, from 1855 to 1859, mentions the following curious incident:

"A half-breed Indian who had stricture from gonorrhœa, and had suffered at times the greatest agony from inability to urinate, was brought to me. Before being brought to me, he had given an Indian doctor his only horse in order to effect micturition. This was brought about, I am credibly informed, by suction, with the lips applied to the penis! After a few mouthfuls of bloody urine, the bladder was relieved of its enormous distension, without further difficulty, for the time being. I found it almost impossible, at first, to introduce the smallest sized bougie or catheter, but he is now perfectly well, and can himself introduce a large catheter, without difficulty."

The Skeleton of the Race Horse Eclipse.—The skeleton of this famous stallion has been recently purchased for the museum of the Royal Veterinary College of London, at the cost of about five hundred dollars. As Eclipse was, from his speed and endurance, the finest horse ever known, the skeleton is valued as the model specimen of the framework of blooded horses. When the animal died, his body was scientifically dissected, and a full account of the developments has been published.

Cost of the Cattle Disease in Massachusetts.—The Boston *Transcript* says that the amount of money paid to the owners of cattle slaughtered by the Commissioners on the Pleuro-Pneumonia, is about $38,000. The extra session of the Legislature, convened to consider the matter, cost about $19,000, making the whole expense of stopping the ravages of the disease about $52,000. The Commissioners are confident that the malady has been eradicated.

Children's Hospital of Philadelphia.—During the past year one hundred and twenty children were accommodated in the wards, and one thousand four hundred and eighteen were attended as out-patients.

Imitation of Butter.—The London *Chemical News* states that hundreds of barrels of the clarified fat of horses are imported from Ostend to England and sold in London for genuine butter.

Yale Medical College.—The commencement exercises of the Medical Department of Yale College took place on Thursday evening, January 10th.

A Statue of Sir John Franklin, in bronze, is being produced by Mr. Bacon. It is to be erected at Spilsby, Lincolnshire, the birth-place of the lost explorer.

The Digger Indians.—A California correspondent of the *Inquirer*, says:—"Grasshoppers are held by the Diggers in about the same gustatory estimation with which oysters are regarded by civilized *gourmands*. For winter use, they are carefully sun-dried and kept; while for immediate consumption, or eating "in the shell," they are crushed into a pasty mass, and eaten with the fingers. Acorns, formed into paste, are also eaten with like attention to the etiquette of the table."

Reduction of Dislocations with the Aid of the Local Application of Chloroform.—M. Orliac attributes to the employment of chloroform, applied by means of compresses over the muscles concerned in resisting reduction, the great facility he experienced in overcoming the difficulty he had met when using the ordinary means. He reports several cases of success. In two cases, the quantity of chloroform employed was from 10 to 12 grammes.—*Amer. Med. Monthly.*

Early Pregnancy.—A case is related by Doctor Blane of "a girl about fourteen years of age, (not married,)—she had no appearance of puberty; no mammæ; pubic region, that of a little girl; vulva more spare than I ever knew in any case; and yet she was delivered, after a natural labor of four hours, of a fine healthy-looking boy, weighing nearly ten pounds. The child has, of course, to be nourished artificially.—*Transact. State Medical Society of N. J.*

Chloroform in Congestive Chills.—Dr. H. L. Byrd, in the *Oglethorpe Medical and Surgical Journal*, believes that the inhalation of chloroform during the cold stage of the fever, or in a congestive chill, so as to make a decided impression on the system, is one of the best remedies known to the profession. He has tried it with great success, and predicts the future easy management of the terrible congestive chills of the South.—*Nashville Jour.*

Tetanus produced by the Sting of a Wasp.—The N. O. *Med. Journal* reports the case of a negro boy, aged eleven years, who was stung on the eyelid by a wasp, and on the next day tetanic symptoms occurred which soon increased to much severity.

☞ *We can still supply a few sets of the* REPORTER *from its commencement as a weekly at the original subscription price unbound, or at an additional cost of 50 cents a volume, bound.*

☞ *We are much in need of copies of the* REPORTER *of Oct. 6th, 1860, and will pay* TEN CENTS A COPY *for any numbers of that date that may be sent to our address.*

☞ Those desiring to discontinue the REPORTER can do so by simply neglecting to forward the amount of their subscription when due. It will not be sent long after the subscription has expired! Except in some of the larger cities, we do not send agents to collect subscriptions.

☞ We have no agents who cannot give indubitable proof of their being in our employ, and until notice is given to the contrary in our columns, we shall fulfill their engagements in the ordinary course of business, in regard to subscriptions and advertisements. *Agents' commissions are renewed on the first of every year.*

☞ We receive, in payment of subscriptions, any funds that are current at par in the section of country from which such moneys are forwarded.

MARRIAGES.

LE CONTE—GRIER.—On 10th inst., by the Rev. Henry A. Boardman, D. D., John L. Le Conte, M. D., to Helen S., daughter of the Hon. R. C. Grier.

GLAZEBROOK—BENDER.—In St. Joseph county, Ind., Dec. 18th, by Rev. Wilson Beckner, Dr. Lorenzo D. Glazebrook, of San Piérre, Ind., to Miss Adaline Bender, of St. Joseph county, Ind.

WESCOTT—NOYES.—On Tuesday, 15th instant, by Rev. M. A. De Wolf Howe, D. D., Robert Wescott, M. D., of Scranton, Pa., to Miss Hannah L. Noyes, of Philadelphia.

DEATHS.

BEECHER.—On the 29th of December, 1860, at the residence of his daughter, Lebanon, Pa., Dr. C. Beecher, in the 65th year of his age.

This veteran practitioner commenced the practice of medicine early in life, and continued, almost uninterruptedly, in the same until within a few years of his death, when the ravages of rheumatism, to which he had been a martyr for the greater period of his life, compelled him to retire, only, however, to spend his few remaining days in increased suffering and pain, which finally proved fatal. The earnestness and perseverance with which he devoted himself to his profession, early procured him an extensive practice, the laborious duties of which he was ever ready to discharge. The community in which he so faithfully labored, as well as the cause for which he so long and nobly battled, have indeed lost a devoted friend and admirer, whose memory will never cease to be green in the hearts of the former, and whose example will long be venerated by the followers of the latter. Peace unto his ashes.

PHILLIPS.—At Bristol, Pa., Jan. 1st, 1861, after an illness of three weeks, Dr. John Phillips, in his seventy-first year. Dr. Phillips graduated at Nassau Hall, Princeton, N. J., in the autumn of 1808, and soon after entered the University of Pennsylvania as a student of medicine, where he graduated, with all the honors of the institution, in March, 1812. Shortly after, he opened an office at Bristol, where he has been a remarkably successful practitioner for nearly half a century. He was ardently devoted to his profession, and for many years had the largest circuit of any physician in Bucks county. Remuneration seemed always to be of minor consideration; the distance and darkness of the night were of little consequence to him. To the last he was a warm friend For thirty years he has been looked up to by physicians in Bucks and the border parts of Philadelphia county as almost the only prominent consulting physician in this section of country. Of latter years he has gone much into New Jersey, not only to Burlington and Beverly, but into the interior of the State.

In the death of Dr. Phillips, the community has lost a counsellor and the poor a friend. P.

Answers to Correspondents.

Dr. H., Eden Centre, N. Y.—All right.

Dr. J. A. E. R., Pa.—We can furnish the numbers you want, and will send them soon. You can, if you wish, send the duplicate numbers you have, in exchange.

Dr. W. V. and Dr. J. G., Penn'a.—Vaccine virus will be sent soon.

☞ *Subscribers who send for vaccine virus should always inclose stamps to pay the return postage.*

COMMUNICATIONS RECEIVED.

Delaware—Dr. H. F. Willis, (with encl.) *Georgia*, Dr. V. H. Taliaferro. *Indiana*, Dr. L. D. Glazebrook, Dr. T. P. Bicknell. *Iowa*, Dr. F. H. Buck, (with encl.) *Illinois*—Dr. D. M. Vosburg, (with encl.,) Dr. E. A. D'Arcey, (with encl.) *Kentucky*—Dr. J. S. Seay, (with encl.,) Dr. T. W. Foster, (with encl.) *Massachusetts*—Dr. C. B. Smith, (with encl.,) Dr. C. E. Buckingham, Dr. A. Chapin. *New Jersey*—Dr S. Wickes, Dr. J. K. Pitney, (with encl.,) Dr. L. A. Smith, (with encl.,) Dr. J. N. Woodhull, (with encl.,) Dr. J. Sheppard, (with encl.,) Dr. J. B. Potter, (with encl.,) Dr. S. M. Skinner, (with encl.) *New York*—Dr. Eli Fox, (with encl.,) Dr. C. D. Mosher, Dr. E. P. Clarke, (with encl.) Dr. W. Landt, Dr. C. E. Halsey, Dr. O. C. Payne, (with encl.,) Drs. Berry and Campbell, (with encl.,) Dr. Le Roy McLean, (with encl.,) Dr. S. P. Church, (with encl.,) Dr. C. G. Bacon, (with encl.,) Dr. W. Kilmer, Dr. M. R. Carson, (with encl.) *Ohio*—Dr. McNichol, (4,) Dr. W. Bunce, Dr. E. Sterling, W. E. Chapman, Dr. B. F. Richardson, (with encl.,) Dr. Dr. W. H. Taylor, (with encl.,) Dr. W. T. Brown, (with encl.,) Dr. J. Graham, (with encl.) *Pennsylvania*—Dr. W. Voss, (with encl.,) Dr. D. Hunter, (with encl.,) Dr. G. Klinefelter, (with encl.,) Dr. L. M. Osmun, (with encl.,) Dr. T. Mabon, (with encl.,) Dr. J. H. Wilson, Dr. A. C. Murdock, (with encl.,) Dr. H. L. Freas, (with encl.,) Dr. W. S. Kohler, (with encl.,) Dr. W. Herbst, (with encl.) *Washington, D. C.*—Dr. C. E. King. (with encl.)

Office Payments.—Drs. Smith and Batdorff, [Pa.,] Dr. Isaac S. Mulford, [N. J.,] A. Bolton, Dr. Gebhard. By Mr. Swaine: Drs. Griffin, Paist, Granger, W. Daniels, Moore, Shapleigh, Leach, Pennybaker, Gilbert, Gibbs, J. R. Bryan, Page, Hornberger, Deakyne, Benner, Mintzer, Shippen, B. Price, C. H. Taylor, Dr. W. C. Roney, [Pa.,] Dr. J. McMullen, [Pa.,] Dr. W. B. Wynne, [Pa.]